THE MIND AND SOCIETY

The Mind and Society

VOLUME I

NON-LOGICAL CONDUCT

VOLUME II

ANALYSIS OF SENTIMENT
(THEORY OF RESIDUES)

VOLUME III

SENTIMENT IN THINKING
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VOLUME IV

THE GENERAL FORM
OF SOCIETY

Vilfredo Pareto

The Mind and Society

[*Trattato di Sociologia generale*]

BY VILFREDO PARETO

EDITED BY ARTHUR LIVINGSTON

TRANSLATED BY ANDREW BONGIORNO AND ARTHUR LIVINGSTON
WITH THE ADVICE AND ACTIVE COOPERATION OF
JAMES HARVEY ROGERS

VOLUME ONE

Non-Logical Conduct

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Editor's Note

Vilfredo Pareto's *Trattato di Sociologia generale* appears in this English edition as the realization of dreams and efforts that extend over fifteen years. My first moves towards the introduction of this work to the English-speaking world go back to 1920 and they were successful in the sense that from that date an eventual publication of the *Trattato* in English in some form or other was assured. I had published what I believe to be the first American note on Pareto December 3, 1915 (*Nation*), and the second in 1916 (*International Year Book*). These two articles were anterior to Professor Robinson's now famous footnote on Pareto in his *Mind in the Making,* 1921. I reviewed Pareto's *Trasformazione della democrazia,* with allusions to the *Trattato* in the New York *Herald,* April 19, 1922, and gave what I believe to have been the first American course on the *Trattato* in Will Durant's Labor College in New York in the autumn of that same year. I introduced Pareto for the first time to large audiences at meetings of the Foreign Policy Association in New York in December, 1923, and in Philadelphia, January, 1924, and lectured on him again at Columbia in the summer of 1924 and during the spring of 1925. An article called "The Myth of Good English" which I published in *Century,* August, 1925, and which Edward Valentine Mitchell, of Hartford, included in his *Essays of 1925,* made explicit reference to Pareto's theory of group-persistences. Disregarding the much writing and lecturing that I did on Pareto between 1925 and 1930, I will note that an article I published in *Nation,* May, 1926, in view of a certain resonance that it chanced to obtain in the West, I at the time regarded and still regard as the beginning of the Pareto vogue in America. To summarize, and saving correction, the enterprise that finds its completion in these volumes was at least five years old at the time of the opening of Professor Henderson's epoch-making seminar in Harvard; eight years old when Mr. Aldous Huxley first called public attention to Pareto in England; thirteen years old at the

time when the Pareto vogue burst upon us in full force as the result of Mr. Canby's notes in the *Saturday Review of Literature,* and of Mr. DeVoto's brilliant, spirited and effective campaign in that same review and in *Harper's,* 1933.

I must beg the reader's forgiveness for mentioning these facts just here in this form. I do so only because a voluminous Pareto literature already exists in which they are differently, and sometimes fantastically, recounted.

This enterprise in publishing has been promoted since 1920 on the assumption that there is no priesthood of learning from which the profane are to be forever excluded by reticence on the part of those who know. It is my faith, which I assert as a faith, and perhaps *quia absurdum,* that the general public is interested, and has an interest, in objective thinking apart from sentiment, and in the methods by which the rational state of mind can be cultivated in the face of the countless pitfalls that environment, temperament, the struggle for life, strew in our way. I believe—again an act of faith—that the work that is here offered to the public is the greatest and noblest effort in that direction to which literary history can point.

That faith betrays itself, to the extent of the capacities of four words, in the title which I have ventured to give this work in preference to the original title. I am aware that there are other points of view from which Pareto's masterpiece may be envisaged (I even share some of them) and for which the original title would better serve. But from the outset the chief purpose in this enterprise has been to make the *Trattato* accessible to the general public to which it belongs. I have called it "The Mind and Society" because it illumines the whole relation of thought to conduct, and of thought to sentiment, and the relation of the individual in all his mental processes to the society in which he lives. That particular stress may not reflect Pareto's original stress and intent. It certainly represents his objective achievement.

This edition is a reproduction without any abbreviations or omissions of the last, the 1923, edition of the *Trattato* in its Italian

original. One or two explanations will be in point, however.

The division into volumes is quite arbitrary and is based on typographical considerations only. The Italian original is in three volumes. M. Boven's French translation is in two. The larger units in the treatise are the chapters. The smaller unit is the paragraph, for which I retain a peculiar system of numbering that Pareto used, with one variation or another, in many of his writings. Strange as it may appear to the general reader this device justifies itself once one reflects that the inductive and deductive portions of the exposition are closely related, that the theory is built up systematically like an architectural structure in which the parts are all mutually explanatory and where a cross-reference is now and again most useful.

Pareto first expounded the subject matter of these volumes in the form of lectures that were delivered orally and taken down stenographically. Many traces of that origin survive in the body of the printed Italian text. In this translation I eliminate them. Pareto also makes frequent remarks as to the mechanism of his book or as to his manner of developing his thought. Such comments I regularly throw into footnotes, and in so doing I merely generalize a device that Pareto used to an extent himself. Pareto's original contains a number of repetitions. These too I eliminate, barring exception, inserting cross-references if anything is to be gained by them. In cases where substantial departures from Pareto's text are made, I warn and explain in footnotes.

There has been some public speculation of late as to the whys and wherefores of the many delays that have occurred in the appearance of "The Mind and Society." As a venture in publishing this enterprise has been replete with surprises, difficulties, paradoxes, from its very inception fifteen years ago. As a bookmaking enterprise it has consumed some 9,000 hours of my personal toil spread over the last five years. Nearly half of that has gone into editing the bibliographical material in the notes. Unimportant, from any ordinary point of view, as such problems were, it really seemed that if, in a spirit of textual fidelity, one were compelled to reprint

references such as *"F. H. G.,* XIV, 378," or "Antonio in *Melissa,"* one might as well know what they meant, even if Pareto himself never knew or had known and forgotten. I have therefore in many respects amplified Pareto's bibliographical apparatus, and indeed quite generally used a reference system that is all my own, and which, within the limits of human frailty, should be exact.

I believe that up to this time I must be the only person, not excluding Pareto himself, who has ever made a careful reading of his notes throughout in the shape in which he left them. One reason for that belief is that actually as a result of gross misprinting they are often unreadable in the garbled forms in which they appear in the Barbera or the Boven editions (try, for instance, in those volumes, the quotations from St. Peter Damian, or, even, one or two of those from Tacitus). I believe it has been worth the trouble to open this treasure store of enjoyment and learning by making these texts available in English; and I will further add that ninety percent of them at least are from books of the first order, books that made their marks in their day and that still tower above the surface of the vast intellectual production of the ages. The trait was characteristic of Pareto's method of work. In solving the problem of the library, which confronts every scholar, he made for the great beacons of culture, disregarding monographic minutiae.

In the notes in this edition the translations of quoted texts are, as a rule, mine whatever the English translations I may mention in the references. This procedure was adopted for purely practical reasons, and not in any spirit of disrespect for such magnificent versions as Friedländer's, for instance, of "The Guide of the Perplexed," or many others that I might mention. I simply found in practice that it was better to translate the notes with Pareto's specific comment and stress in mind, if I were to spare the reader many editorial notes that would have been otherwise required to make things fit together accurately. An example would be the use I have actually made of the Bostock-Riley version of Pliny in one or two paragraphs. The utility of the double references that I often make will, I think, be self-evident. In addition to serving as a double check

on possible misprints, they should prove useful to readers who may care to see ampler contexts of interesting quotations either in the originals from which they were taken or in standard translations. Where Pareto quotes from English writers the originals are, of course, restored.

In solving these thousands of bibliographical problems, finding these hundreds of books, identifying exact references, correcting texts on the originals and checking the translations, I would still be nowhere save for the devoted assistance of Mr. Charles H. Tutt and Miss Elisabeth Abbott, to whom I must extend my sincerest appreciation for their rapid, accurate and ingenious researches on hundreds of points. I must also thank Miss Abbott for her painstaking work in twice copying and proofreading my manuscript; Mr. Gaudence Megaro for valuable researches on a number of points, and the indispensable Miss Isabel Lord for the relentless war she has waged (and doubtless could still wage) on my typographical and other inconsistencies. Presuming to speak now in behalf of Paretan studies in America, I would still have to add many words of appreciation for two gentlemen whose names a code of ethics, which they perhaps too rigorously enforce, keeps from appearing in this note. Their diplomacy and courage have helped this enterprise over many barriers that without them would truly have seemed insuperable. It is with deep regret that I find myself restricted to this indirect allusion.

Another regret is that this edition must go to press without a critical introduction to Pareto from some outstanding American scholar. Pareto, however, was most averse to any introduction that should attempt to summarize, epitomize or otherwise interpret his thought. He left directions covering the point with his heirs and the prohibition was included formally in our agreement with them.

ARTHUR LIVINGSTON

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Biographical Note

Vilfredo Federico Damaso Pareto was born in Paris, July 15, 1848. He died at Céligny, near Geneva, Switzerland, August 19, 1923. His birth in Paris was incidental, though his mother was a Frenchwoman, Marie Mettenier, and his father, the Marquis Raffaele Pareto, had become a naturalized French citizen. The Paretos were Genoese, and since the days when Napoleon Bonaparte conferred a coronet on Vilfredo Pareto's grandfather, Agostino, the family had been distinguished as conspirators in the cause of Italian independence, and as statesmen. Furious Liberals and Mazzinians, they fought for Italy against Austria and for an Italian republic against Cavour and the monarchists. The Marquis Agostino represented the Republic of Genoa at Vienna in 1815. The Marquis Lorenzo, an uncle of Vilfredo, was involved in the conspiracy of Santarosa, went on to ministerial honors under Charles Albert of Savoy, and was President of the Italian Senate under Victor Emmanuel II. In 1856 an aunt by marriage of Pareto's, an Irishwoman, hid Mazzini in her house and sewed him into a mattress when the police came to arrest him. The Marquis Raffaele himself was in exile in Paris at the time of Vilfredo's birth.

Before the Corsican adventurer made nobles of the Paretos, the family had for generations been prominent in the mercantile bourgeoisie of Genoa. Actually Paretos are numerous all along the two Rivieras into Catalonia. A Bartolommeo Pareto was famous as an astronomer in Catalonia in the days of Columbus.

Vilfredo Pareto left Paris for Turin when he was eleven years old, his father, who was an engineer of note, having accepted a post in the railways under the first great administrator of the new Italy, Quintino Sella. The young man seemed to have inherited his father's talents as a mathematician, but he was just as brilliant in the classics and in history. He completed his elementary education at Turin and graduated from the celebrated Polytechnic Institute in that city at the age of twenty-two. His dissertation dealt with

"the index functions of equilibrium in solid bodies." Adepts in mysteries of that sort recognized already in that treatise the germ that was to produce such wonders as Note 2022[1] in the treatise hereafter following.

Faced with the problem of a career, Pareto followed his father through the famous Breach in Porta Pia into a post in the railways at Rome. He was to work four years as a consulting engineer in the new capital of the kingdom. In 1874 he passed into the employ of the Banca Nazionale of Florence, which selected him as general superintendent of three iron mines that it owned in the Valley of the Arno. He held this post for six years. They were the critical years of his career. As a manager of an important business enterprise he was drawn into the question of free-trade and protection and first began to interest himself in economic questions. On the theoretical side he became impressed with the fact that there was a great deal of "literature" and very little "science" in the political economy that was practised and especially preached in those days. On the practical side he became disgusted with the restraints that a government puts upon free initiative when bureaucracy begins to regulate and manage business. He stood for parliament for the district of Pistoia on the free-trade platform and was defeated.

In Florence during these years he made decisive friendships—Domenico Comparetti, the revered and greatly beloved author of *Virgil in the Middle Ages,* Arturo Linnacher, a learned classicist, Sydney Sonnino, the statesman, Giustino Fortunato, the biographer of Giordano Bruno. They were all members of a company of brilliant minds that foregathered in the salon of Emilia Toscanelli-Peruzzi, one of the most charming hostesses of that era in the life of Florence. At this time, too, Pareto fell under the spell of Auguste Comte's writings, and began seriously to ponder the problems of scientific sociology. On his father's death in '82, his mother came to live with him and he retired with her and his wife—for he was now married—on the small competence that was left him, to Villa Rosa in Fiesole, with the idea of preparing himself for a professorship in economics. For twelve years he knocked in vain at the doors of academic Italy, though the papers he read before the Academy

of the Georgiofili attracted wide attention. His great friend during this period was the economist, Maffeo Pantaleoni, who figured in the next decisive change in Pareto's life. Pareto had had a poor opinion of Léon Walras, the great Swiss economist. Pantaleoni not only opened Pareto's eyes to the merits of Walras but opened the eyes of Walras to the merits of Pareto. Invited to nominate his own successor to the chair of political economy at Lausanne in 1894, Walras designated Pareto.

Pareto bade farewell to his country with a certain bitterness, which manifested itself in a consistent scorn for such honors as, in the days of his greatness, it would willingly have accorded him. Already he had conceived that utter contempt for plutocratic democracy which finds its completest expression in "The Mind and Society." He was convinced that ten men of courage could at any time march on Rome and put the band of "speculators" that were filling their pockets and ruining Italy to flight. During the great years in Switzerland he scanned the heavens continually for any signs of the certain cataclysm, and thought he saw them, now in 1904 when the Czar's visit to Italy was cancelled in deference to a Socialist protest, now in 1914 when all northern Italy rushed into the wild orgies of the "Red Week." When, in 1922, the unspeakable Facta was frightened by the March on Rome into one of the most abject surrenders known to history, Pareto was able to rise from a sick-bed and utter a triumphant "I told you so!"—the bitter exultance of the justified prophet, not the assertion, and by far, of a wish.

As the "Socialist Systems" followed on the Cours and the Manuale on the "Socialist Systems," Pareto moved to the forefront in social science in Europe as one of the founders, if not the founder, of mathematical economics and of mathematical sociology, and the measure of that eminence was furnished by the jubilee which was celebrated in his honor by his colleagues in science in 1917. Meantime he had acquired a quite different sort of fame in both Italy and France by a long list of trenchant comments on European and world affairs which he contributed to newspapers in Paris, Rome, Turin and Genoa. Noteworthy in this regard was his association with the group of the *Indépendence* in Paris, headed by Georges

Sorel. In 1907 he had inherited a considerable fortune from a parallel branch of his family. He had already settled in the villa at Céligny with which his later years were associated. Born gentleman that he was, he was famous among his friends for his indifference to the exteriors that go with wealth and fame. There is a legend that the whole *Trattato* was written in one pair of shoes and one suit of clothes, and anecdotes abound in that sense. Giving a lecture before a convention of scientists at Geneva, Pareto was interrupted from the floor by a patronizing cry from Gustav Schmoller, an economist of the then German Strassburg: "But are there laws in economics?" Schmoller had no personal acquaintance with Pareto at the time. After the lecture Pareto recognized his heckler on the street and sidled up to him in his shabby clothes and in guise of a beggar: "Please, sir, can you direct me to a restaurant where one can eat for nothing?" "Not where you can eat for nothing, my good man," the German replied, "but here is one where you can eat for very little!" "So there *are* laws in economics!" laughed Pareto as he turned away.

At the time of his death Pareto had accepted a royal appointment to the Italian Senate, and was nominally economic delegate of Italy to the League of Nations. Pareto married twice, the first time unhappily. His second wife was a Frenchwoman, Jane Régis, to whom "The Mind and Society" was dedicated.

A. L.

WORKS

Cours d'économie politique professé à l'université de Lausanne (2 vols., Lausanne, 1896-97)
Les Systèmes socialistes (Paris, 1902-03)
Manuale di economia politica (Milano, 1906)
Manuel d'économie politique, translation and revision of *Manuale* (Paris, 1909)
Le mythe vertuiste et la littérature immorale (Paris, 1911, new ed., 1920)
Trattato di Sociologia generale (1st ed., 2 vols., Florence, 1916; 2nd ed., Florence, 1923)
Traité de Sociologie générale (2 vols., Paris, 1917)
Fatti e teorie (Firenze, 1920)
Trasformazione della democrazia (Milano, 1921)

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THE MIND AND SOCIETY

Volume I: Non-Logical Conduct

CHAPTER I

The Scientific Approach

1. Human society is the subject of many researches. Some of them constitute specialized disciplines: law, political economy, political history, the history of religions, and the like. Others have not yet been distinguished by special names. To the synthesis of them all, which aims at studying human society in general, we may give the name of *sociology*.

2. That definition is very inadequate. It may perhaps be improved upon—but not much; for, after all, of none of the sciences, not even of the several mathematical sciences, have we strict definitions. Nor can we have. Only for purposes of convenience do we divide the subject-matter of our knowledge into various parts, and such divisions are artificial and change in course of time. Who can mark the boundaries between chemistry and physics, or between physics and mechanics? And what are we to do with thermodynamics? If we locate that science in physics, it will fit not badly there; if we put it with mechanics, it will not seem out of place; if we prefer to make a separate science of it, no one surely can find fault with us. Instead of wasting time trying to discover the best classification for it, it will be the wiser part to examine the facts with which it deals. Let us put names aside and consider things.

In the same way, we have something better to do than to waste our time deciding whether sociology is or is not an independent science—whether it is anything but the "philosophy of history" under a different name; or to debate at any great length the methods to be followed in the study of sociology. Let us keep to our quest for the relationships between social facts, and people may then give to that inquiry any name they please. And let knowledge of such relationships be obtained by any method that will serve. We are interested in the end, and much less or not at all interested in the means by which we attain it.

3. In considering the definition of sociology just above we found it necessary to hint at one or two norms that we intend to follow in these volumes. We might do the same in other connexions as occasion arises. On the other hand, we might very well set forth our norms once and for all. Each of those procedures has its merits and its defects. Here we prefer to follow the second.[1]

4. The principles that a writer chooses to follow may be put forward in two different ways. He may, in the first place, ask that his principles be accepted as demonstrated truths. If they are so accepted, all their logical implications must also be regarded as proved. On the other hand, he may state his principles as mere indications of one course that may be followed among the many possible. In that case any logical implication which they may contain is in no sense demonstrated in the concrete, but is merely hypothetical—hypothetical in the same manner and to the same degree as the premises from which it has been derived. It will therefore often be necessary to abstain from drawing such inferences: the deductive aspects of the subject will be ignored, and relationships be inferred from the facts directly.

Let us consider an example. Suppose Euclid's postulate that a straight line is the shortest distance between two points is set before us as a theorem. We must give battle on the theorem; for if we concede it, the whole system of Euclidean geometry stands demonstrated, and we have nothing left to set against it. But suppose, on the contrary, the postulate be put forward as a hypothesis. We are no longer called upon to contest it. Let the mathematician develop the logical consequences that follow from it. If they are in accord with the concrete, we will accept them; if they seem not to be in such accord, we will reject them. Our freedom of choice has not been fettered by any anticipatory concession. Considering things from that point of view, other geometries—non-Euclidean geometries—are possible, and we may study them without in the least surrendering our freedom of choice in the concrete.

3 [1] In the first chapter of my *Manuale* I examined with special regard to political economy several subjects that are touched upon here with regard to sociology.

If before proceeding with their researches mathematicians had insisted upon deciding whether or not the postulate of Euclid corresponded to concrete reality, geometry would not exist even today. And that observation is of general bearing. All sciences have advanced when, instead of quarrelling over first principles, people have considered results. The science of celestial mechanics developed as a result of the hypothesis of the law of universal gravitation. Today we suspect that that attraction may be something different from what it was once thought to be; but even if, in the light of new and better observations of fact, our doubts should prove well founded, the results attained by celestial mechanics on the whole would still stand. They would simply have to be retouched and supplemented.

5. Profiting by such experience, we are here setting out to apply to the study of sociology the methods that have proved so useful in the other sciences. We do not posit any dogma as a premise to our research; and our statement of principles serves merely as an indication of that course, among the many courses that might be chosen, which we elect to follow. Therefore anyone who joins us along such a course by no means renounces his right to follow some other. From the first pages of a treatise on geometry it is the part of the mathematician to make clear whether he is expounding the geometry of Euclid, or, let us say, the geometry of Lobachevski. But that is just a hint; and if he goes on and expounds the geometry of Lobachevski, it does not follow that he rejects all other geometries. In that sense and in no other should the statement of principles which we are here making be taken.

6. Hitherto sociology has nearly always been expounded dogmatically. Let us not be deceived by the word "positive" that Comte foisted upon his philosophy. His sociology is as dogmatic as Bossuet's *Discourse on Universal History*. It is a case of two different religions, but of religions nevertheless; and religions of the same sort are to be seen in the writings of Spencer, De Greef, Letourneau, and numberless other authors.

Faith by its very nature is exclusive. If one believes oneself pos-

sessed of the absolute truth, one cannot admit that there are any other truths in the world. So the enthusiastic Christian and the pugnacious free-thinker are, and have to be, equally intolerant. For the believer there is but one good course; all others are bad. The Mohammedan will not take oath upon the Gospels, nor the Christian upon the Koran. But those who have no faith whatever will take their oath upon either Koran or Gospels—or, as a favour to our humanitarians, on the *Social Contract* of Rousseau; nor even would they scruple to swear on the *Decameron* of Boccaccio, were it only to see the grimace Senator Bérenger would make and the brethren of that gentleman's persuasion.[1] We are by no means asserting that sociologies derived from certain dogmatic principles are useless; just as we in no sense deny utility to the geometries of Lobachevski or Riemann. We simply ask of such sociologies that they use premises and reasonings which are as clear and exact as possible. "Humanitarian" sociologies we have to satiety—they are about the only ones that are being published nowadays. Of metaphysical sociologies (with which are to be classed all positive and humanitarian sociologies) we suffer no dearth. Christian, Catholic, and similar sociologies we have to some small extent. Without disparagement of any of those estimable sociologies, we here venture to expound a sociology that is purely experimental, after the fashion of chemistry, physics, and other such sciences.[2] In all that follows, therefore, we intend to take only experience [3] and observation as our guides. So far as experience is not contrasted with observation, we shall, for love of brevity, refer to experience alone. When we say that a thing is attested "by experience," the reader must add "and by observation."

6 [1] [Senator René Bérenger (1830-1915), a *bête noire* of Pareto and one of the villains in this long story, was president of the French *Fédération des sociétés contre la pornographie,* and was the author, among other things, of a *Manuel pratique pour la lutte contre la pornographie* (Paris, 1907) and of a *Rapport* (to the French Senate, 1895) . . . *sur la prostitution et les outrages aux bonnes mœurs.*—A. L.]

6 [2] For greater detail on this point, see Sensini, *La teoria della rendita,* and Boven, *Les applications mathématiques à l'économie politique.*

6 [3] [In Italian the word *esperienza* contains the meaning of "experiment" as well as "experience" and the word "experience" is so used in this translation, barring specification to the contrary.—A. L.]

When we speak of "experimental sciences," the reader must supply the adjective "observational," and so on.

7. Current in any given group of people are a number of propositions, descriptive, preceptive, or otherwise. For example: "Youth lacks discretion." "Covet not thy neighbour's goods, nor thy neighbour's wife." "Love thy neighbour as thyself." "Learn to save if you would not one day be in need." Such propositions, combined by logical or pseudo-logical nexuses and amplified with factual narrations [1] of various sorts, constitute theories, theologies, cosmogonies, systems of metaphysics, and so on. Viewed from the outside without regard to any intrinsic merit with which they may be credited by faith, all such propositions and theories are experimental facts, and as experimental facts we are here obliged to consider and examine them.

8. That examination is very useful to sociology; for the image of social activity is stamped on the majority of such propositions and theories, and often it is through them alone that we manage to gain some knowledge of the forces which are at work in society—that is, of the tendencies and inclinations of human beings. For that reason we shall study them at great length in the course of these volumes. Propositions and theories have to be classified at the very outset, for classification is a first step that is almost indispensable if one would have an adequate grasp of any great number of differing objects.[1] To avoid endless repetition of the words "proposition" and "theory," we shall for the moment use only the latter term; but whatever we say of "theories" should be taken as applying also to "propositions," barring specification to the contrary.

9. For the man who lets himself be guided chiefly by sentiment—for the believer, that is—there are usually but two classes of theories: there are theories that are *true* and theories that are *false*. The terms

7 [1] ["Narration," *narrazione,* is a technical term with Pareto, used for a recital of facts *seriatim* quite apart from any interpretation, organization or "thought."—A. L.]

8 [1] The classification that is barely suggested here will be amply dealt with in later chapters.

"true" and "false" are left vaguely defined. They are felt rather than explained.

10. Oftentimes three further axioms are present:

1. The axiom that every "honest" man, every "intelligent" human being, *must* accept "true" propositions and reject "false" ones. The person who fails to do so is either not honest or not rational. Theories, it follows, have an absolute character, independent of the minds that produce or accept them.

2. The axiom that every proposition which is "true" is also "beneficial," and *vice versa.* When, accordingly, a theory has been shown to be true, the study of it is complete, and it is useless to inquire whether it be beneficial or detrimental.

3. At any rate, it is inadmissible that a theory may be beneficial to certain classes of society and detrimental to others—yet that is an axiom of modern currency, and many people deny it without, however, daring to voice that opinion.

11. Were we to meet those assertions with contrary ones, we too would be reasoning *a priori;* and, experimentally, both sets of assertions would have the same value—zero. If we would remain within the realm of experience, we need simply determine first of all whether the terms used in the assertions correspond to some experimental reality, and then whether the assertions are or are not corroborated by experimental facts. But in order to do that, we are obliged to admit the possibility of both a positive and a negative answer; for it is evident that if we bar one of those two possibilities *a priori,* we shall be giving a solution likewise *a priori* to the problem we have set ourselves, instead of leaving the solution of it to experience as we proposed doing.

12. Let us try therefore to classify theories, using the method we would use were we classifying insects, plants, or rocks. We perceive at once that a theory is not a homogeneous entity, such as the "element" known to chemistry. A theory, rather, is like a rock, which is made up of a number of elements. In a theory one may detect descriptive elements, axiomatic assertions, and functionings of certain entities, now concrete, now abstract, now real, now imaginary; and

all such things may be said to constitute the *matter* of the theory. But there are other things in a theory: there are logical or pseudo-logical arguments, appeals to sentiment, "feelings," traces of religious and ethical beliefs, and so on; and such things may be thought of as constituting the instrumentalities whereby the "matter" mentioned above is utilized in order to rear the structure that we call a theory. Here, already, is one aspect under which theories may be considered. It is sufficient for the moment to have called attention to it.[1]

13. In the manner just described, the structure has been reared—the theory exists. It is now one of the objects that we are trying to classify. We may consider it under various aspects:

1. *Objective aspect.* The theory may be considered without reference to the person who has produced it or to the person who assents to it—"objectively," we say, but without attaching any metaphysical sense to the term. In order to take account of all possible combinations that may arise from the character of the *matter* and the character of the *nexus,* we must distinguish the following classes and subclasses:

CLASS I. Experimental matter
I*a*. Logical nexus
I*b*. Non-logical nexus
CLASS II. Non-experimental matter
II*a*. Logical nexus
II*b*. Non-logical nexus

The subclasses I*b* and II*b* comprise logical sophistries, or specious reasonings calculated to deceive. For the study in which we are engaged they are often far less important than the subclasses I*a* or II*a*. The subclass I*a* comprises all the experimental sciences; we shall call it *logico-experimental.* Two other varieties may be distinguished in it:

I*a*1, comprising the type that is strictly pure, with the matter strictly experimental and the nexus logical. The abstractions and

12 [1] We shall discuss it at length in Chapter IV (§ 467).

general principles that are used within it are derived exclusively from experience and are subordinated to experience (§ 63).

I*a*2, comprising a deviation from the type, which brings us closer to Class II. Explicitly the matter is still experimental, and the nexus logical; but the abstractions, the general principles, acquire (implicitly or explicitly) a significance transcending experience. This variety might be called *transitional*. Others of like nature might be considered, but they are far less important than this one.

The classification just made, like any other that might be made, is dependent upon the knowledge at our command. A person who regards as experimental certain elements that another person regards as non-experimental will locate in Class I a proposition that the other person will place in Class II. The person who thinks he is using logic and is mistaken will class among logical theories a proposition that a person aware of the error will locate among the non-logical. The classification above is a classification of types of theories. In reality, a given theory may be a blend of such types—it may, that is, contain experimental elements and non-experimental elements, logical elements and non-logical elements.[1]

2. *Subjective aspect.* Theories may be considered with reference to the persons who produce them and to the persons who assent to them. We shall therefore have to consider them under the following subjective aspects:

a. Causes in view of which a given theory is devised by a given person. Why does a given person assert that $A = B$? Conversely, if he makes that assertion, why does he do so?

b. Causes in view of which a given person assents to a given theory. Why does a given person assent to the proposition $A = B$? Conversely, if he gives such assent, why does he do so?

These inquiries are extensible from individuals to society at large.

3. *Aspect of utility.* In this connexion, it is important to keep the

13 [1] There are theories that are logico-experimental in appearance but which substantially are not of that character. For an interesting and very important example of such pseudo-logico-experimental theories, see §§ 407 f. Strictly speaking, such theories should be placed in the non-logico-experimental group.

theory distinct from the state of mind, the sentiments, that it reflects. Certain individuals evolve a theory because they have certain sentiments; but then the theory reacts in turn upon them, as well as upon other individuals, to produce, intensify, or modify certain sentiments.

I. *Utility or detriment resulting from the sentiments reflected by a theory:*
Ia. As regards the person asserting the theory
Ib. As regards the person assenting to the theory
II. *Utility or detriment resulting from a given theory:*
IIa. As regards the person asserting the theory
IIb. As regards the person assenting to it.

These considerations, too, are extensible to society at large.

We may say, then, that we are to consider propositions and theories under their *objective* and their *subjective aspects*, and also from the standpoint of their individual or social *utility*. However, the meanings of such terms must not be derived from their etymology, or from their usage in common parlance, but exclusively in the manner designated later in § 119.

14. To recapitulate: Given the proposition $A = B$, we must answer the following questions:

1. *Objective aspect.* Is the proposition in accord with experience, or is it not?

2. *Subjective aspect.* Why do certain individuals assert that $A = B$? And why do other individuals believe that $A = B$?

3. *Aspect of utility.* What advantage (or disadvantage) do the sentiments reflected by the proposition $A = B$ have for the person who states it, and for the person who accepts it? What advantage (or disadvantage) does the theory itself have for the person who puts it forward, and for the person who accepts it?

In an extreme case the answer to the first question is yes; and then, as regards the other question, one adds: "People say (people believe) that $A = B$, because it is *true*." "The sentiments reflected

in the proposition are beneficial[1] because true." "The theory itself is beneficial because true." In this extreme case, we may find that data of logico-experimental science are present, and then "true" means in accord with experience. But also present may be data that by no means belong to logico-experimental science, and in such event "true" signifies not accord with experience but something else —frequently mere accord with the sentiments of the person defending the thesis. We shall see, as we proceed with our experimental research in chapters hereafter, that the following cases are of frequent occurrence in social matters:

a. Propositions in accord with experience that are asserted and accepted because of their accord with sentiments, the latter being now beneficial, now detrimental, to individuals or society

b. Propositions in accord with experience that are rejected because they are not in accord with sentiments, and which, if accepted, would be detrimental to society

c. Propositions not in accord with experience that are asserted and accepted because of their accord with sentiments, the latter being beneficial, oftentimes exceedingly so, to individuals or society

d. Propositions not in accord with experience that are asserted and accepted because of their accord with sentiments, and which are beneficial to certain individuals, detrimental to others, and now beneficial, now detrimental, to society.

On all that we can know nothing *a priori*. Experience alone can enlighten us.

15. After objects have been classified, they have to be examined, and to that research we shall devote the next chapters. In Chapters IV and V we shall consider theories with special reference to their accord with experience and observation. In Chapters VI, VII, and

14 [1] [Pareto's doctrine of utility takes Bentham's utilitarian theory as its point of departure. Bentham used the adjective "useful" as corresponding to "utility," the opposites being "harm" and "harmful." Pareto uses "useful" (*utile*) quite regularly. In this translation I have found most convenient the terms "utility," "beneficial," "detriment" and "detrimental," alternating, on occasion, with "advantage," "advantageous," "disadvantageous."—A. L.]

VIII we shall study the sentiments in which theories originate. In Chapters IX and X we shall consider the ways in which sentiments are reflected in theories. In Chapter XI we shall examine the characteristics of the elements so detected. And finally in Chapters XII and XIII we shall see the social effects of the various elements, and arrive at an approximate concept of variations in the forms of society—the goal at which we shall have been aiming all along and towards which all our successive chapters will have been leading.[1]

16. From the objective standpoint (§ 13), we divided propositions or theories into two great classes, the first in no way departing from the realm of experience, the second overstepping it in some respect or other.[1] If one would reason at all exactly, it is essential to keep those two classes distinct, for at bottom they are heterogeneous things that must never be in any way confused, and which cannot, either, be compared.[2] Each of them has its own manner of reasoning and, in general, its own peculiar standard whereby it falls into two divisions, the one comprising propositions that are in logical accord with the chosen standard and are called true; the other comprising propositions which are not in accord with that standard and are called false. The terms "true" and "false," therefore, stand in strict dependence on the standard chosen. If one should try to give them an absolute meaning, one would be deserting the logico-experimental field for the field of metaphysics.

The standard of truth for propositions of the first class lies in experience and observation only. The standard of truth for the second class lies outside objective experience—in some divine revelation; in concepts that the human mind finds in itself, as some say, without the aid of objective experience; in the universal consensus of mankind, and so on.

15 [1] In some other book we might carry the investigation begun in this one further and investigate the particular forms of the various social phenomena of which we shall here have found the general forms.

16 [1] Pareto, *Manuale,* Chap. I, § 37.

16 [2] *Ibid.,* Chap. I, § 41: "Fatuous and silly is the claim of certain individuals that the faith they hold is 'more scientific' than the faiths of other people. Faith and science have nothing in common, and a faith can contain neither more nor less of science."

There must never be any quarrelling over names. If someone is minded to ascribe a different meaning to the terms "truth" and "science," for our part we shall not raise the slightest objection. We are satisfied if he specifies the sense that he means to give to the terms he uses and especially the standard by which he recognizes a proposition as "true" or "false."

17. If that standard is not specified, it is idle to proceed with a discussion that could only resolve itself into mere talk; just as it would be idle for lawyers to plead their cases in the absence of a judge. If someone asserts that *"A* has the property *B,"* before going on with the discussion we must know who is to judge the controversy between him and another person who maintains that *"A* does not have the property *B."* If it is agreed that the judge shall be objective experience, objective experience will then decide whether *A* has, or does not have, the property *B*. Throughout the course of these volumes, we are in the logico-experimental field. I intend to remain absolutely in that field and refuse to depart from it under any inducement whatsoever. If, therefore, the reader desires a judge other than objective experience, he should stop reading this book, just as he would refrain from proceeding with a case before a court to which he objected.

18. If people disposed to argue the propositions mentioned desire a judge other than objective experience, they will do well to declare exactly what their judge is to be, and if possible (it seldom is) to make themselves very clear on the point. In these volumes we shall refrain from participating in arguments as to the substance of propositions and theories. We are to discuss them strictly from the outside, as social facts with which we have to deal.

19. Metaphysicists generally give the name of "science" to knowledge of the "essences" of things, to knowledge of "principles." If we accept that definition for the moment, it would follow that this work would be in no way scientific. Not only do we refrain from dealing with essences and principles: we do not even know the meaning of those terms (§ 530).

Vera, Hegel's French translator, says,[1] "The notions of science and absolute science are inseparable. . . . Now if there be an absolute science, it is not and cannot be other than philosophy. So philosophy is the common foundation of all the sciences, and as it were the common intelligence of all intelligences." In this book we refuse to have anything whatever to do with such a science, and with those other pretty things that go with it. "The absolute (in other words, essence) and unity (in other words, the necessary relations of beings) are the two prime conditions of science." Both of them will be found missing in these volumes, and we do not even know what they may be. We seek the relationships obtaining between things within the limits of the space and time known to us, and we ask experience and observation to reveal them to us. "Philosophy is at once an explanation and a creation." We have neither the desire nor the ability to explain, in Vera's sense of the term, much less to create. "The science that knows the absolute and grasps the innermost reason of things knows how and why events come to pass and beings are engendered [That is something we do not know.], and not only knows but in a certain way itself engenders and brings to pass in the very fact of grasping the absolute. And indeed we must either deny science, or else admit that there is a point where knowledge and being, thought and its object, coincide and are identified; and a science of the absolute that arose apart from the absolute, and so failed of achieving its real and innermost nature, would not be a science of the absolute, or more exactly, would not be science at all."

20. Well said! In that we agree with Vera. If science is what Vera's terms describe it as being—terms as inspiring as they are (to us) incomprehensible—we are not here dealing with science. We are, however, dealing with another thing that Vera very well describes in a particular case when he says, p. 214, note: "Generally speaking, mechanics is just a miscellany of experiential data and mathematical formulae." In terms still more general, one might say: "a miscellany of experiential data and logical inferences from

19 [1] *Introduction à la philosophie de Hegel,* pp. 78-89.

such data." Suppose, for a moment, we call that non-science. Both Vera and Hegel are then right in saying that the theories of Newton are not science but non-science; and in these volumes I also intend to deal with non-science, since my wish is to construct a system of sociology on the model of celestial mechanics, physics, chemistry, and other similar non-sciences, and eschew entirely the science or sciences of the metaphysicists (§§ 503,[5] 514 [2]).

21. A reader might observe: "That granted, why do you continually harp on science in the course of your book, since you use the term in the sense of non-science? Are you trying in that way to usurp for your non-science a prestige that belongs to science alone?" I answer that if the word "science" ordinarily meant what the metaphysicists say it means, rejecting the thing, I would conscientiously reject the word. But that is not the case. Many people, nay, most people, think of celestial mechanics, physics, chemistry, and so on as sciences; and to call them non-sciences or something else of the sort would, I fear, be ridiculous. All the same, if someone is still not satisfied, let him prefix a "non-" to the words "science" and "scientific" whenever he meets them in these volumes, and he will see that the exposition develops just as smoothly, since we are dealing with things and not with words (§ 119).

22. While metaphysics proceeds from absolute principles to concrete cases, experimental science proceeds from concrete cases, not to absolute principles, which, so far as it is concerned, do not exist, but to general principles, which are brought under principles still more general, and so on indefinitely. That procedure is not readily grasped by minds accustomed to metaphysical thinking, and it gives rise to not a few erroneous interpretations.

23. Let us note, just in passing, the preconception that in order to know a thing its "essence" must be known. To the precise contrary, experimental science starts with knowledge of things, to go on, if not to essences, which are entities unknown to science, at least to general principles (§§ 19-20). Another somewhat similar conception is widely prevalent nowadays in the fields of political economy

and sociology. It holds that knowledge of things can be acquired only by tracing their "origins" [1] (§§ 93, 346).

24. In an attenuated form the preconception requiring knowledge of "essences" aims at demonstrating particular facts by means of general principles, instead of deriving the general principle from the fact. Just so proof of the fact is confused with proof of its causes. For example, observation shows the existence of a fact *A;* and we go on and designate *B, C, D* . . . as its probable causes. It is later shown that those causes are not operative, and from that the conclusion is drawn that *A* does not exist. The demonstration would be valid if the existence of *B, C, D* . . . had been shown by experience and the existence of *A* inferred from them. It is devoid of the slightest value if observation has yielded *A* directly.

25. Close kin to the preconception just mentioned is the difficulty some people experience in analyzing a situation and studying its various aspects separately. We shall have frequent occasion to return to this matter. Suffice it here to note that the distinctions drawn above in § 13 will not be recognized by many people; and if others do indeed accept them theoretically, they straightway forget them in actual thinking (§§ 31-32, 817).

26. For people of "living faith" the various characteristics of theories designated in § 13 often come down to one only. What the believer wants to know, and nothing else, is whether the proposition is true or not true. Just what "true" means nobody knows, and the believer less than anybody. In a general way it seems to indicate accord with the believer's sentiments; but that fact is evident only to the person viewing the belief from the outside, as a stranger to it—never to the believer himself. He, as a rule, denies the subjective character of his belief. To tell him that it is subjective is almost to insult him, for he considers it true in an absolute sense. For the same reason he refuses to think of the term "true" apart from the meaning he attaches to it, and readily speaks of a truth different from experimental truth and superior to it.[1]

23 [1] Pareto, *Manuale,* Chap. I, § 33.

26 [1] With that state of mind also we shall deal at length in chapters following.

27. It is idle to continue discussions of that type—they can only prove fruitless and inconclusive—unless we know exactly what the terms that are used mean, and unless we have a criterion to refer to, a judge to render judgment in the dispute (§§ 17 f.). Is the criterion, the judge, to be experience and observation, or is it to be something else? That point has to be clearly determined before we can go on. If you are free to choose between two judges, you may pick the one you like best to decide your case. But you cannot choose them both at the same time, unless you are sure in advance that they are both of one mind and one will.

28. Of that agreement metaphysicists enjoy an *a priori* certitude, for their superexperimental criterion is of such majesty and power that it dominates the experimental criterion, which must of necessity accord with it. For a similar reason theologians too are certain *a priori* that the two criteria can never fail of accord. We, much more humble, enjoy no such *a priori* enlightenment. We have no knowledge whatever of what *must* or *ought to* be. We are looking strictly for what *is*. That is why we have to be satisfied with one judge at a time.

29. From our point of view not even logic supplies *necessary* inferences, except when such inferences are mere tautologies. Logic derives its efficacy from experience and from nothing else (§ 97).[1]

30. The human mind is synthetic, and only training in the habit of scientific thinking enables a few individuals to distinguish the parts in a whole by an analytical process (§ 25). Women especially, and the less well-educated among men, often experience an insurmountable difficulty in considering the different aspects of a thing separately, one by one. To be convinced of that, one has only to read a newspaper article before a mixed social gathering and then try to discuss one at a time the various aspects under which it may be considered. One will notice that one's listeners do not follow, that they persist in considering all the aspects of the subject all together at one time.

29 [1] This is not the place to deal with the question. We note the point in passing just to avoid misunderstandings.

31. The presence of that trait in the human mind makes it very difficult for both the person who is stating a proposition and the person who is listening to keep the two criteria, the experimental and the non-experimental, distinct. An irresistible force seems always to be driving the majority of human beings to confuse them. Many facts of great significance to sociology find their explanation in just that, as will be more clearly apparent from what follows.

32. In the natural sciences people have finally realized the necessity of analysis in studying the various aspects of a concrete phenomenon—the analysis being followed by a synthesis in getting back from theory to the concrete. In the social sciences that necessity is still not grasped by many people.

33. Hence the very common error of denying the truth of a theory because it fails to explain every aspect of a concrete fact; and the same error, under another form, of insisting on embracing under one theory all other similar or even irrelevant theories.

Let *O* in Figure 1 stand for a concrete situation. By analysis we distinguish within it a number of facts: *c, e, g. . . .*

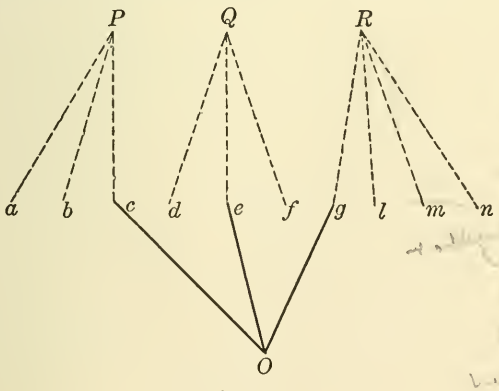

Figure 1

The fact *c* and others like it, *a, b . . .* are brought together under a certain theory, under a general principle, *P*. In the same way, *e* and facts like *e* (*d, f . . .*) yield another theory, *Q;* and the facts *g, l, m, n . . .* still another theory, *R,* and so on. These theories are worked out separately; then, to determine the concrete situation *O,*

the results (*c, e, g . . .*) of the various theories are taken together. After analysis comes synthesis.

People who fail to understand that will say: "The situation *O* presents not only the fact *e* but also the fact *c;* therefore the theory *Q* has to account for *c.*" That conclusion is erroneous. One should say—and it is the only sound conclusion: ". . . therefore the theory *Q* accounts for only a part of the situation *O.*"

34. *Example:* Let *Q* stand for the theory of political economy. A concrete situation *O* presents not only an economic aspect, *e,* but the further aspects *c, g . . .* of a sociological character. It is a mistake to include, as many have included, the sociological elements *c, g . . .* under political economy. The only sound conclusion to be drawn from the facts is that the economic theory which accounts for *e* must be supplemented (*supplemented,* not replaced) by other theories which account for *c, g. . . .*

35. In political economy itself, the theories of pure or mathematical economics have to be supplemented—not replaced—by the theories of applied economics. Mathematical economics aims chiefly at emphasizing the interdependence of economic phenomena. So far no other method has been found for attaining that end.[1]

36. Straightway one of those numberless unfortunates who are cursed with the mania for talking about things they do not understand comes forward with the discovery—lo the wonders of genius! —that pure economics is not applied economics, and concludes, not that something must be added to pure economics if we are to understand concrete phenomena, but that pure economics must be replaced by his gabble. Alas, good soul, mathematical economics helps, at least, to a rough understanding of the effects of the interdependence of economic phenomena, while your gabble shows absolutely nothing!

37. And lo, another prodigious genius, who holds that because many economic phenomena depend on the human will, economics must be replaced by psychology. But why stop at psychology? Why not geography, or even astronomy? For after all the economic factor

35 [1] Pareto, *Manuale,* Chap. III, § 228.

is influenced by seas, continents, rivers, and above all by the Sun, fecundator general of "this fair family of flowers and trees and all earthly creatures." [1] Such prattle has been called *positive* economics, and for that our best gratitude, for it provokes a laugh, and laughter, good digestion!

38. Many economists have been inclined to bring each and every sort of economic theory under the theory of *value*.[1] True, nearly all economic phenomena express themselves in terms of *value;* but from that we have a right to conclude that in isolating the various elements in such phenomena we come upon a theory for value—but not that all other elements have to be squeezed into that theory. Nowadays people are going farther still, and value is coming to be the door through which sociology is made to elbow its way into political economy. Perhaps we ought to be thankful that they are stopping at that, for no end of other things might be pushed through the same door: psychology, to explain why and how a thing, real or imaginary, comes to have value; then physiology as handmaiden to psychology; and then—why not?—a little biology to explain the foundations of physiology; and surely a little mathematics, for after all the first member of an equation has the same value as the second and the theory of value would not be complete without the theory of equations; and so on forever. In all of which there is this much truth: that the concrete situation is very complex and may be regarded as a compound of many elements *A, B, C*. . . . Experience teaches that to understand such a situation it is best to isolate the elements *A, B, C* . . . and examine them one by one, that we may then bring them together again and so get the theory of the complex as a whole. That is just what logico-experimental science does. But those who are unfamiliar with its methods grope blindly forward, shifting from *A* to *B,* from *B* to *C,* then every so often turning back, mixing things up, taking refuge in words, thinking of *B* while studying *A,* and of something else while studying *B*. Worse yet, if you are looking into *A* they interrupt to remind you of *B;*

37 [1] [The allusion is to Foscolo, *I sepolcri,* vv. 4-5.—A. L.]

38 [1] Pareto, *Manuale,* Chap. III, § 226; *Systèmes socialistes,* Vol. I, pp. 338 f.

and if you answer on *B,* they are off to *C,* jumping about now here, now there, prattling ever beside the point and demonstrating one thing only: their helpless innocence of any scientific method.

39. Those who deny scientific status to political economy argue, in fact, to show that it is not adequate to explain concrete phenomena; and from that they conclude that it should be ignored in such explanation. The sound conclusion would be that other theories should be added to it. Thinking as such people think we should have to say that chemistry ought to be ignored in agriculture, since chemistry is inadequate to explain everything about a farm. Moreover, engineering schools would have to bar pure mathematics, for it stands to applied mechanics almost as pure economics stands to applied economics.

40. Further, it is difficult, in fact almost impossible, to induce people to keep mere knowledge of the laws (uniformities) of society distinct from action designed to modify them. If someone is keeping strictly to such knowledge, people will insist at all costs that he have some practical purpose in view. They try to find out what it is, and, there being none, one is finally invented for him.

41. In the same way, it is difficult to induce people not to go beyond what an author says and add to the propositions he states others that may seem to be implicit in them but which he never had in mind (§§ 73 f., 311). If you note a defect in a given thing *A,* it is taken for granted that you are condemning *A* as a whole; if you note a good point, that you approve of *A* as a whole. It seems incredibly strange to people that you should be stressing its defects if you are not intending to condemn it as a whole, or its excellences if you are not approving of it as a whole. The inference would be somewhat justified in a case of special pleading, for after all it is not the business of the advocate to accuse his client. But it is not a sound inference from a plain description of fact, or when a scientist is seeking scientific uniformities. The inference would be admissible, further, in the case of an argument not of a logico-experimental character but based on accord of sentiments (§ 514). In fact, when one is trying to win the sympathies of others by such an argument,

one may be expected to declare one's own sympathies; and if that is not done explicitly, people may properly assume that it is done implicitly. But when we are reasoning objectively, according to the logico-experimental method, we are not called upon to declare our sentiments either explicitly or by implication.

42. As regards proofs, a person stating a logico-experimental proposition or theory (§ 13, I*a*) asks them of observation, experience, and logical inferences from observation and experience. But the person asserting a proposition or theory that is not logico-experimental can rely only on the spontaneous assent of other minds and on the more or less logical inferences he can draw from what is assented to. At bottom he is exhorting rather than proving. However, that is not commonly admitted by people using non-logico-experimental theories. They pretend to be offering proofs of the same nature as the proofs offered for logico-experimental theories; and in such pseudo-experimental arguments they take full advantage of the indefiniteness of common everyday language.

As regards persuasion, proofs are convincing only to minds trained to logico-experimental thinking. Authority plays a great part even in logico-experimental propositions, though it has no status as proof. Passions, accords of sentiment, vagueness of terms, are of great efficacy in everything that is not logico-experimental (§ 514).

43. In the sphere of proof, experience is powerless as against faith, and faith as against experience, with the result that each is confined to its own domain. If John, an unbeliever, denies that God created Heaven and Earth, and you meet him with the authority of the Bible, you have made a nice round hole in the water, for he will deny the authority of the Bible and your argument will crumble. To replace the authority of the Bible with the authority of your "Christian experience" is a childish makeshift, for John will reply that his own experience inclines him not in the least to agree with you; and if you retort that his experience is not Christian, you will have reasoned in a neat circle, for it is certain that if only that experience is Christian which leads to your results, one may conclude

without fear of contradiction that Christian experience leads to your results—and by that we have learned exactly nothing.

44. When one asserts a logico-experimental proposition (§ 13, I*a*), one can place those who contradict in the dilemma of either accepting the proposition as true or refusing credence to experience and logic. Anyone adopting the latter course would be in the position of John, the unbeliever just mentioned: you would have no way of persuading him.

45. It is therefore evident that, aside as usual from sophistical reasonings made in bad faith, the difference as regards proofs between theories that are logico-experimental (I*a*) and theories that are not lies chiefly in the fact that in our day in Western countries it is easier to find disbelievers in the Koran or the Gospels; in types of experience, whether Christian, personal, humanitarian, rational, or of whatever other kind; in the categorical imperative; or in the dogmas of positivism, nationalism, pacifism, and numberless other things of that brand, than it is to find disbelievers in logic and experience. In dealing with other ages and countries the situation may be different.

46. We are in no sense intending, in company with a certain materialistic metaphysics, to exalt logic and experience to a greater power and majesty than dogmas accepted by sentiment. Our aim is to distinguish, not to compare, and much less to pass judgment on the relative merits and virtues of those two sorts of thinking (§ 69).

47. Again, we have not the remotest intention of bringing back through the window a conviction we have just driven out by the door. We in no wise assert that the logico-experimental proof is superior to the other and is to be preferred. We are saying simply—and it is something quite different—that such proof alone is to be used by a person concerned not to abandon the logico-experimental field.[1]

48. The extreme case of a person flatly repudiating all logical dis-

47 [1] The remark is really tautological and would hardly be worth making if it were not so frequently forgotten by people who mix experience and faith, reasoning and sentiment.

cursion, all experience, is rarely met with. Logico-experimental considerations are commonly enough ignored, left unexpressed, crowded aside, by one device or another; but it is difficult to find anyone really combating them as enemies. That is why people almost always try to demonstrate theories that are not objective, not experimental, by pseudo-logical and pseudo-experimental proofs.

49. All religions have proofs of that type, supplemented as a rule by proofs of utility to individual and society. And when one religion replaces another, it is anxious to create the impression that its experimental proofs are of a better quality than any the declining faith can marshal. Christian miracles were held to be more convincing than pagan miracles, and nowadays the "scientific" proofs of "solidarity" and humanitarianism are considered superior to the Christian miracles. All the same, the man who examines such facts without the assistance of faith fails to notice any great difference in them; for him they have exactly the same scientific value, to wit, zero. We are obliged to believe that "when Punic fury thundered from the Thrasimene" the defeat of the Romans was caused by the impious indifference of the consul Flaminius to the portents sent of the gods. The consul had fallen from his horse in front of the statue of Jupiter Stator. The sacred chickens had refused to eat. Finally, the legionary ensign had stuck in the ground and could not be extricated.[1] We shall also be certain (whether more or less certain, I could not say) that the victory of the Crusaders at Antioch was due to the divine protection concretely symbolized in the Holy Lance.[2] Then again it

49 [1] Cicero, *De divinatione,* I, 35, 77: "On that occasion the standard-bearer of the First Spears found he could not move his ensign from where it was; and nothing could be done about it, though many came to his assistance. But when the thing was reported to Flaminius he, as was his usual habit, paid no attention; and so, within three hours, his army was cut to pieces and he himself was slain." [The literary allusion in "Punic fury" is to Carducci, *"Alle fonti del Clitumno"* (*Poesie,* p. 803).—A. L.]

49 [2] Michaud, *Histoire des croisades,* 1877 ed., Vol. I, p. 94: "Many of the Crusaders attributed the victory they had won over the Saracens to the discovery of the Holy Lance. Raymond d'Agiles avers that the enemy dared not approach battalions in the midst of which the miraculous weapon could be seen glistening." *Idem, Bibliothèque des croisades,* Vol. I, pp. 33-34: "Raymond d'Agiles adds that none of the men fighting about the Holy Lance suffered any harm. 'If someone objects,' he con-

is certain, in fact the height of certitude, because attested by a better and more modern religion, that Louis XVI of France lost his throne and his life simply because he did not love to the degree required his good, his darling, people. The humanitarian god of democracy never suffers such offences to go unpunished!

50. Experimental science has no dogmas, not even the dogma that experimental facts can be explained only by experience. If the contrary were seen to be the case, experimental science would accept the fact, as it accepts every other fact of observation. And it in truth accepts the proposition that inventions may at times be promoted by non-experimental principles, and does so because that proposition is in accord with the results of experience.[1] But so far as demonstration goes, the history of human knowledge clearly shows that all attempts to explain natural phenomena by means of propositions derived from religious or metaphysical principles have failed. Such attempts have finally been abandoned in astronomy, geology, physiology, and all other similar sciences. If traces of them are still to be found in sociology and its subbranches, law, political economy, ethics, and so on, that is simply because in those fields a strictly scientific status has not yet been attained.[2]

51. One of the last efforts to subordinate experience to metaphysics was made by Hegel in his *Philosophy of Nature,* a work which, in all frankness, attains and oversteps the limits of comic absurdity.[1]

52. On the other hand, in our day people are beginning to repudiate dogmas that usurp status as experimental science. Sectarians of the humanitarian cult are wont to meet the "fictions" of the religion they are combating with the "certainty" of science. But that "certainty" is just one of their preconceptions. Scientific theories are

tinues, 'that the Vicomte Héracle, standard-bearer to the Bishop, was wounded, that was because he had handed the banner to another person and had moved some distance away.' "

50 [1] Pareto, *Manuale,* Chap. I, §§ 45, 51.

50 [2] Experiment is helpful even in mathematics. As is well known, modern analysis has discredited by experimental data a number of theories that were considered certain on the basis of sense-perceptions of space.

51 [1] Pareto, *Systèmes socialistes,* Vol. II, pp. 71 f.; *Manuel,* pp. 35, note 1; 14, note 1.

mere hypotheses, which endure so long as they accord with the facts and which die and vanish from the scene as new investigations destroy that accord. They are then superseded by new ones for which a similar fate is held in store (§ 22).

53. Let us assume that a certain number of facts are given. The problem of discovering their theory may be solved in more than one way. A number of theories may satisfy the data equally well, and the choice between them may sometimes be determined by subjective considerations, such as preference for greater simplicity (§ 64).

54. In both logico-experimental (I*a*) and non-logico-experimental theories, one gets certain general propositions called "principles," logically deducible from which are inferences constituting theories. Such principles differ entirely in character in the two kinds of theories mentioned.

55. In logico-experimental theories (I*a*) principles are nothing but abstract propositions summarizing the traits common to many different facts. The principles depend on the facts, not the facts on the principles. They are governed by the facts, not the facts by them. They are accepted hypothetically only so long and so far as they are in agreement with the facts; and they are rejected as soon as there is disagreement (§ 63).

56. But scattered through non-logico-experimental theories one finds principles that are accepted *a priori,* independently of experience, dictating to experience. They do not depend upon the facts; the facts depend upon them. They govern the facts; they are not governed by them. They are accepted without regard to the facts, which must of necessity accord with the inferences deducible from the principles; and if they seem to disagree, one argument after another is tried until one is found that successfully re-establishes the accord, which can never under any circumstances fail.

57. In order of time, the grouping of theories as given in § 13 has in many cases to be reversed. In history, that is, non-logico-experimental theories often come first, the logico-experimental (I*a*) afterwards.

58. The subordination of facts to principles in non-logico-experimental theories is manifested in a number of ways:

1. People are so sure of the principles with which they start that they do not even take the trouble to inquire whether their implications are in accord with experience. Accord there must be, and experience as the subordinate cannot, must not, be allowed to talk back to its superior.[1] That is the case especially when logico-experimental theories (I*a*) begin to invade a domain that has been pre-empted by non-logico-experimental theories.

2. As that invasion gains headway, progress in the experimental sciences finally rescues them from the servitude to which they were regarded as sternly subject. They are conceded a measure of autonomy; they are permitted to verify the inferences drawn from traditional principles, though people continue to assert that verification always corroborates the principle. If things seem not to turn out that way, casuistry comes to the rescue to re-establish the desired accord.

3. When finally that method of maintaining the sovereignty of the general principles also fails, the experimental sciences are resignedly allowed to enjoy their hard-won independence; but their domain is now represented as of an inferior order envisaging the relative and the particular, whereas philosophical principles contemplate the absolute, the universal.

59. No departure from the experimental field and therefore from the domain of logico-experimental theories (I*a*) is involved in the resort to hypotheses, provided they are used strictly as instruments in the quest for consequences that are uniformly subject to verification by experience. The departure arises when hypotheses are used as instruments of proof without reference to experimental verification. The hypothesis of gravitation, for instance, does not carry us outside the experimental field so long as we understand that its implications

58 [1] For example, Zeller well notes of Heraclitus, *Philosophie der Griechen,* Vol. I, p. 658 (Alleyne, Vol. II, p. 95), that when that philosopher is carried to hypotheses which conflict with the known testimony of the senses, he concludes [*Fragmenta,* IV ?] not that his hypotheses are false, as an empiricist would do, but that the senses are deceptive, that reason alone gives trustworthy knowledge.

are at all times subject to experience, as modern physics always assumes. It would carry us outside the experimental field were we to declare gravitation an "essential property" of "matter" and assert that the orbits of the stars must of necessity comply with the Newtonian law. That distinction was not grasped by writers such as Comte, who tried to bar the hypothesis of a luminous ether from science. That hypothesis and others of the kind are to be judged not intrinsically but extrinsically, that is, by ascertaining whether and to what extent inferences drawn from them accord with the facts.

60. When any considerable number of inferences from a given hypothesis have been verified by experience, it becomes exceedingly probable that a new implication will likewise be verified; so in that case the two types of hypotheses mentioned in §§ 55 and 56 are inclined to blend, and in practice there is the temptation to accept the new inference without verifying it. That explains the haziness present in many minds as to the distinction between hypotheses subordinate to experience and hypotheses dominating experience. Still, as a matter of practice there are cases where the implications of this or that hypothesis may be accepted without proof. For instance, certain principles of pure mechanics are being questioned nowadays, at least as regards velocities to any considerable degree greater than velocities practically observable. But it is evident that the mechanical engineer may continue to accept them without the slightest fear of going wrong, since the parts of his machines move at speeds which fall far short of any that would require modifications in the principles of dynamics.

61. In pure economics my hypothesis of "ophelimity" (§ 2110) remains experimental so long as inferences from it are held subject to verification on the facts. Were that subordination to cease, the hypothesis could no longer be called experimental. Walras did not think of his "exchange value" in any such manner.[1] If one drops the

61 [1] Boven, *Les applications mathématiques à l'économie politique,* pp. 106 f.: "First a few definitions of Walras. Interesting his definition of *'value':* [*Éléments d'économie politique pure,* p. 44.] 'Exchange value is the property possessed by certain things whereby they are not obtained or disposed of gratuitously, but are bought or sold, received or given, in certain quantitative proportions in exchange

hypothesis of ophelimity, as is possible by observing curves of indifference (§ 2408[1]) or by some other device of the kind, one is excused from verifying experimentally the implications of a hypothesis that is no longer there.

62. Likewise, the hypothesis of value remains experimental so long as value is thought of as something leading to inferences that are experimentally verifiable. It ceases to be experimental when value is taken as a metaphysical entity presumably superior to experimental verification (§ 104).[1]

63. In the logico-experimental sciences, if they are to be kept strictly such, so-called general principles are, as we said above (§ 55), nothing but hypotheses designed to formulate syntheses of facts, linking facts under theories and epitomizing them. Theories, their principles, their implications, are altogether subordinate to facts and possess no other criterion of truth than their capacity for picturing them. That is an exact reversal of the relations between general principles and experimental facts that obtain in non-logico-experimental theories (§ 13, Class II). But the human mind has such a predilection for theories of that sort that general principles have often been seen to recover sovereignty even over theories aspiring to status as logico-experimental (I*a*). It was agreed, that is, that principles had a quasi-

for other things.' This 'property possessed by certain things' smacks of the domain of physics or metaphysics. It is not the same thing as price. . . . One gets the impression that Walras finds it hard to explain just what his 'property' is. He goes round and round it, qualifies it, classifies it, suggests the conditions under which it is to be met with, how it behaves; but he never shows it except under a blurred glass."

62 [1] Pareto, *"L'économie et la sociologie,"* in *Scientia,* Bologna, 1907, No. 2: "The term [value] has finished by designating some mystical, metaphysical entity or other that may mean anything, since it has come to mean nothing at all. William Stanley Jevons in his day [1882] saw that the term was giving rise to endless misunderstandings and proposed banishing it from science [see *Theory of Political Economy,* p. 81]. Meantime matters have grown worse, if possible; and use of the term 'value' may in future serve to distinguish economic treatises that are not scientific from treatises that are. [In a note:] In a volume on economics recently published we find that 'price is a concrete manifestation of value.' We are already familiar with the incarnations of Buddha. To them we are now asked to add the incarnations of Value. Using that sort of language we might say that a cat is a concrete manifestation of 'felinity,' water a concrete manifestation of the 'liquid principle.' But what is the liquid principle? Alas, nobody knows!"

independent subsistence, that only one theory was true, while numberless others were false, that experience could indeed determine which theory was true, but that, having done that much, it was called upon to submit to the theory. In a word, general principles, which were lords by divine right in non-logico-experimental theories (§ 16), became lords by election, but lords nevertheless, in logico-experimental theories (I*a*). So we get the two subclasses distinguished in § 13; but it is well to note that oftentimes their traits are implicit rather than explicit, that is, general principles are used without explicit declaration as to just how they are regarded.

64. Steady progress in the experimental sciences eventually brought about the downfall of this elective sovereignty as well, and so led to strictly logico-experimental theories (I*a*1), in which general principles are mere abstractions devised to picture facts, it being meantime recognized that different theories may be equally true (§ 53), in the sense that they picture the facts equally well and that choice among them is, within certain limits, arbitrary. In a word, one might say that we have reached the extreme of Nominalism, provided that term be stripped of its metaphysical connotations.

65. For the very reason that we intend to remain strictly within logico-experimental bounds, we are not called upon to solve the metaphysical problem of Nominalism and Realism.[1] We do not presume to decide whether only the *individuum*, or only the *species*, exists, for the good reason, among others, that we are not sufficiently clear as to the precise meaning of the term "exist." We intend to study things and hence *individua*, and to consider species as aggregates of more or less similar things on which we determine ourselves for specified purposes. Farther than that we choose not to go just

65 [1] Familiar the language in which Boëthius, translating Porphyry, states the problem, *Isagogen Porphyrii commenta* I, 10 (Vienna, p. 159; Berlin, p. 25): *"Mox de generibus et speciebus, illud quidem sive subsistant sive in solis nudis intellectibus posita sint, sive subsistentia corporalia sint an incorporalia, et utrum separata a sensibilibus an insensibilibus posita et circa haec consistentia, dicere recusabo."* ("Next, as regards genera and species, I must be excused from deciding whether they are real or are mere conceptions of the mind, whether they are corporeal or incorporeal realities, and whether they are real apart from objects or are attributes of objects inseparable from them.")

here, though without prejudice to anybody's privilege of going beyond the point at which we stop.

66. The fact that we deal with *individua* by no means implies that a number of *individua* taken together are to be considered a simple sum. They form compounds which, like chemical compounds, may have properties that are not the sum of the properties of their components.

67. Whether the principle that replaces experience or observation be theological, metaphysical, or pseudo-experimental may be of great importance from certain points of view; but it is of no importance whatever from the standpoint of the logico-experimental sciences. St. Augustine denies the existence of antipodes because Scripture makes no mention of them.[1] In general, the Church Fathers find all their criteria of truths, even of experimental truths, in Holy Writ. Metaphysicists make fun of them and replace their theological principles with other principles just as remote from experience. Scientists who came after Newton, forgetting that he had wisely halted at the dictum that celestial bodies moved *as if* by mutual attraction according to a certain law, saw in that law an absolute principle, divined by human intelligence, verified by experience, and presumably governing all creation eternally. But the principles of mechanics have of late been subjected to searching criticism, and the conclusion has been reached that only facts and the equations that picture them can stand. Poincaré judiciously observes that from the very fact that certain phenomena admit of a mechanical explanation, they admit also of an indefinite number of other explanations.

68. All the natural sciences to a greater or lesser extent are approximating the logico-experimental type (I*a*1). We intend to study sociology in just that fashion, trying, that is, to reduce it to the same type (§§ 6, 486, 514[2]).

69. The course we elect to pursue in these volumes is therefore the following:

1. We intend in no way to deal with the intrinsic "truth" of any

67 [1] For his arguments see § 485.

religion or faith, or of any belief, whether ethical, metaphysical, or otherwise, and we adopt that resolve not in any scorn for such beliefs, but just because they lie beyond the limits within which we have chosen to confine ourselves. Religions, beliefs, and the like we consider strictly from the outside as social facts, and altogether apart from their intrinsic merits. The proposition that "*A must*[1] be equal to *B*" in virtue of some higher superexperimental principle escapes our examination entirely (§ 46); but we do want to know how that belief arose and developed and in what relationships it stands to other social facts.

2. The field in which we move is therefore the field of experience and observation strictly. We use those terms in the meanings they have in the natural sciences such as astronomy, chemistry, physiology, and so on, and not to mean those other things which it is the fashion to designate by the terms "inner" or "Christian" experience, and which revive, under barely altered names, the "introspection" of the older metaphysicists. Such introspection we consider as a strictly objective fact, as a social fact, and not as otherwise concerning us.

3. Not intruding on the province of others, we cannot grant that others are to intrude on ours.[2] We deem it inept and idiotic to set up experience against principles transcending experience; but we likewise deny any sovereignty of such principles over experience.[3]

69 [1] Pareto, *Manuale,* Chap. I, §§ 39-40.

69 [2] *Ibid.,* Chap. I, §§ 42-48.

69 [3] These volumes were already in type when an article by Adrien Naville appeared in the *Revue de théologie et de philosophie,* Sept.-Oct., 1915, excellently urging against the theories of Bergson ideas similar to those above. The conclusions of a thinker of Naville's distinction are well worth noting. Says he, p. 18: "As regards the theory of the two truths and the case made against science, I have come to the conclusion that science is limited, relative, in part conventional, that it is immersed in mystery, and leaves open a whole world of questions partaking of the nature of transcendental speculation; but that meantime in its own domain and in the fields where it pronounces judgment, there is no authority higher than its own." Just previously Naville had said, p. 3: "A strange development has taken place in our day. The sovereignty of science has been brought under fire, and not by backward minds stifled in routine, not by partisans of ignorance and of a dogma concerned to endure for ever unchanged, but by most wide-awake, most open-minded, most active intelligences. Science is being called to the bar by very enlightened and

4. We start with facts to work out theories, and we try at all times to stray from the facts as little as possible. We do not know what the "essences" of things are (§§ 19, 91, 530) and we ignore them, since that investigation oversteps our field (§ 91). We are looking for the

very daring innovators. . . . Not that the cult of science has entirely disappeared. One might even say that it has become wide-spread and that worshippers of science are more numerous today than fifty years ago. The masses at large are professing for science a reverence that seems to be on the increase [§ 2392] and their leaders are encouraging that attitude in them. . . . But if science has maintained all its prestige for those who move on the lower or middle planes of the intellectual world, the case is different with those who dwell on the summits. These latter have grown mistrustful of science—they are talking back, criticizing, drawing up an indictment and demanding an answer." After reviewing a number of such criticisms, Naville continues, p. 16: "M. Bergson . . . is one of the severest critics that science has ever had. Not that he despises the thing, by any means; he vaunts its merits as loudly as anyone, but only on condition that science attend to its own business, which is, one might say, to formulate the truth that is useful and not the truth that is true. The truth that is true can be obtained only by procedures that are altogether different from the procedures of science."

So by plain observation of facts and without any preconceived theories, Naville is led to note a particular case of a phenomenon of which we shall state the general theory in Chapter XII (§§ 2339 f.); and in the same way he goes on to note other particular cases of the same thing, p. 6: "That there are two truths [Two? There are an infinite number of truths: *quot homines tot sententiae!*]—the one profound, philosophy, the other less profound and, in a word, less true—is a thesis that has frequently turned up in the course of history." From the standpoint of logic and experience, this notion of a number of different truths is a vagary without head or tail, a hotchpotch of meaningless words; but from the standpoint of sentiments and the social or individual utility of sentiments (§§ 1678 f.) it expresses, be it only by combating one error with another, the discrepancy between experience and the dogma that non-logical actions originate exclusively in outworn, absurd, and pernicious prejudices (§ 1679). Says Naville, pp. 7-8: "In Western Europe it [the theory of the two truths] came to the fore with particular aggressiveness in the latter centuries of the Middle Ages. Its appearance marked the decline and heralded the demise of Scholasticism. Scholasticism had been an alliance between Church doctrine and philosophy. There were two Scholasticisms in Europe, the one Christian, the other Judaic. . . . When Greek came to be known and acquaintance with Aristotle to be intimate, the Church had to decide whether to turn her back on Greek science and thought or accept them as auxiliaries and allies. She adopted the latter course, and the alliance was Scholasticism. The Jewish synagogue did likewise. . . . All the same, the alliance between Church doctrine and philosophical speculation had not been struck on a footing of equality. The Church claimed the upper hand—she was mistress; and philosophical research, free within certain limits, was not expected to overstep them. Towards the close of the Middle Ages the number of emancipated minds progressively increased, and then the theory of the two truths came quite generally to the fore in university circles, notably at Paris and at Padua."

At that time the theory served as a bridge between the theology of sentiment and

uniformities presented by facts,[4] and those uniformities we may even call laws (§ 99); but the facts are not subject to the laws: the laws are subject to the facts. Laws imply no *necessity* (§§ 29, 97). They are hypotheses serving to epitomize a more or less extensive number of facts and so serving only until superseded by better ones.

5. Every inquiry of ours, therefore, is contingent, relative, yielding results that are just more or less probable, and at best very highly probable. The space we live in seems actually to be three-dimensional; but if someone says that the Sun and its planets are one day to sweep us into a space of four dimensions, we shall neither agree nor disagree. When experimental proofs of that assertion are brought to us, we shall examine them, but until they are, the problem does not interest us. Every proposition that we state, not excluding propositions in pure logic, must be understood as qualified by the restriction *within the limits of the time and experience known to us* (§ 97).

6. We argue strictly on things and not on the sentiments that the names of things awaken in us. Those sentiments we study as objective facts strictly. So, for example, we refuse to consider whether an action be "just" or "unjust," "moral" or "immoral," unless the things to which such terms refer have been clearly specified. We shall, however, examine as an objective fact what people of a given social class, in a given country, at a given time, meant when they said that *A* was a "just" or a "moral" act. We shall see what their motives were, and how oftentimes the more important motives have done their work unbeknown to the very people who were inspired by them; and we shall try to determine the relationships between such facts and other social facts. We shall avoid arguments involving terms lacking in exactness (§ 486), because from inexact premises only inexact conclusions can be drawn.[5] But such arguments we

the theology of reason, and its indirect consequences were favourable to experimental science. Today the theory is serving as a bridge between the theology of reason and the theology of sentiment; and it may again turn out to be to the benefit of experimental science by demonstrating experimentally the individual and social utility of non-logical conduct. And see §§ 1567-79.

69 [4] Pareto, *Manuale,* Chap. I, §§ 4 f.

69 [5] As always we use the terms "exact," "exactness," in the sense designated in §§ 108 and 119[1]. They are applied to terms that designate things with the closest

shall examine as social facts; indeed we have in mind to solve a very curious problem as to how premises altogether foreign to reality sometimes yield inferences that come fairly close to reality (Chapter XI).

7. Proofs of our propositions we seek strictly in experience and observation, along with the logical inferences they admit of, barring all proof by accord of sentiments, "inner persuasion," "dictate of conscience."

8. For that reason in particular we shall keep strictly to terms

approximation possible. The chemist does not reject the term "water" for pure water—as pure, that is, as can be obtained with the means at present at our command; but he would reject it as a designation for sea-water. The mathematician knows very well that there is no number that, when multiplied by itself, gives 2—which is, in other words, the square root of 2; but he does not scruple to use a number as approximate as is required for the calculation he has in hand, say the number 1.414214; yet he would refuse to use the number 5 for the same computation. Mathematicians have proceeded as though a square root of 2 (in general, an irrational number) existed. They have now come to recognize the necessity of using instead two classes of real numbers, the first containing all rational numbers with squares less than 2, the second, all rational numbers with squares larger than 2. The example is noteworthy on two accounts:

1. It illustrates the *continuous development* of science, by showing how in a science as perfect, as exact, as mathematics improvements in the direction of greater perfection and exactness have still been possible. Similar improvements might be mentioned in mathematical series, and in many mathematical demonstrations.

2. It is an example of *successive approximation* in the sense of gradual progress towards greater and greater exactness. The mathematicians of antiquity wisely avoided the risk of losing their way among such niceties, and modern mathematicians have just as wisely gone into them. The ancients were paving the way for the moderns; the moderns are paving the way for their successors. Hipparchus, Kepler, Newton, Laplace, Gauss, Poincaré, represent successive approximations in celestial mechanics. Hegel reached the absolute in one bound; but there is this difference between his speculations and the theories of those scientists: With Hegel's theories one could not locate a star, however indefinitely—he leaves one in the fix of a mathematician taking 100 as the square root of 2; whereas with scientific theories one may determine those locations roughly and with closer and closer approximation, being in the position of the mathematician utilizing some value such as 1.414214 as the square root of 2. We are trying to follow in sociology the path trodden before us by astronomers, physicists, chemists, geologists, botanists, zoologists, physiologists, in short, by all natural scientists of modern times; and to avoid, so far as within us lies, the road that led the Church Fathers to denying the existence of antipodes, and Hegel to prattling about mechanics, chemistry, and other similar sciences—and which is generally followed by metaphysicists, theologians, and men of letters in studies that they pretend deal with facts of nature but which in reality are a mere hotchpotch of sentiments.

corresponding to things, using the utmost care and endeavour to have them as definite as possible in meaning (§ 108).

9. We shall proceed by *successive approximations*. That is to say, we shall first consider things as wholes, deliberately ignoring details. Of the latter we shall then take account in successive approximations (§ 540).[6]

70. We in no sense mean to imply that the course we follow is *better* than others, for the reason, if for no other, that the term "better" in this case has no meaning. No comparison is possible between theories altogether contingent and theories recognizing an absolute. They are heterogeneous things and can never be brought together (§ 16). If someone chooses to construct a system of sociology starting with this or that theological or metaphysical principle or, following a contemporary fashion, with the principles of "progressive democracy," we shall pick no quarrel with him, and his work we shall certainly not disparage. The quarrel will not become inevitable until we are asked in the name of those principles to accept some conclusion that falls within the domain of experience and observation. To go back to the case of St. Augustine: When he asserts that the Scriptures are inspired of God, we have no objection to the proposition, which we do not comprehend very clearly to begin with. But when he sets out to prove by the Scriptures that there are no antipodes (§ 485), we have no interest in his arguments, since jurisdiction in the premises belongs to experience and observation.

71. We move in a narrow field, the field, namely, of experience

69 [6] Pareto, *Manuale,* Chap. I, § 14. I have given many illustrations of the method of successive approximations in my *Cours* and *Manuale*. For sociology a good example is available in Marie Kolabinska's *La circulation des élites en France*. The writer wisely centred on the main elements in her problem, disregarding the secondary. That method is the only one that can be followed if one is to construct a scientific theory and steer clear of the divagations of that ethical literature which is still passed off as sociology. Many further examples of successive approximations will be found in these volumes.

70 [1] Hence also we refrain from passing any judgment on the conflict now raging on the matter of divine inspiration between Catholic orthodoxy and the Modernists. The subject lies outside the field in which we choose to remain. We must, however, remark that the interpretation of the Modernists has really nothing to do with the positive sciences.

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and observation. We do not deny that there are other fields, but in these volumes we elect not to enter them. Our purpose is to discover theories that picture facts of experience and observation (§ 486), and in these volumes we refuse to go beyond that. If anyone is minded to do so, if anyone craves an excursion outside the logico-experimental field, he should seek other company and drop ours, for he will find us disappointing.

72. We differ radically from many people following courses similar to ours in that we do not deny the social utility of theories unlike our own. On the contrary we believe that in certain cases they may be very beneficial. Correlation of the social utility of a theory with its experimental truth is, in fact, one of those *a priori* principles which we reject (§ 14). Do the two things always go hand in hand, or do they not? Observation of facts alone can answer the question; and the pages which follow will furnish proofs that the two things can, in certain cases, be altogether unrelated.

73. I ask the reader to bear in mind, accordingly, that when I call a doctrine absurd, in no sense whatever do I mean to imply that it is detrimental to society: on the contrary, it may be very beneficial. Conversely, when I assert that a theory is beneficial to society, in no wise do I mean to imply that it is experimentally true. In short, a doctrine may be ridiculed on its experimental side and at the same time respected from the standpoint of its social utility. And *vice versa.*

74. In general, when I call attention to some untoward consequence of a thing *A,* indeed one very seriously so, in no way do I mean to imply that *A* on the whole is detrimental to society; for there may be good effects to overbalance the bad. Conversely, when I call attention to a good effect of *A,* great though it be, I do not at all imply that on the whole *A* is beneficial to society.

75. The warning I have just given I had to give, for in general people writing on sociology for purposes of propaganda and with ideals to defend speak in unfavourable terms alone of things they consider bad on the whole, and favourably of things they consider good on the whole. Furthermore, since to a greater or lesser extent

they use arguments based on accords of sentiment (§§ 41, 514), they are induced to manifest their own sympathies in order to win the sympathies of others. They look at facts with not altogether indifferent eyes. They love and they hate, and they disclose their loves and their hates, their likes and dislikes. Accustomed to that manner of doing and saying, a reader very properly concludes that if a writer speaks unfavourably of a thing and stresses one or another of its defects, that means that on the whole he judges it bad and is unfavourably disposed towards it; whereas if he speaks favourably of a thing and stresses one or another of its good points, on the whole he deems it good and is favourably disposed towards it. That rule does not apply to this work; and I shall feel obliged to remind the reader of that fact over and over again (§ 311). In these volumes I am reasoning objectively, analytically, according to the logico-experimental method. In no way am I called upon to make known such sentiments as I may happen to cherish, and the objective judgment I pass upon one aspect of a thing in no sense implies a similar judgment on the thing considered synthetically as a whole.[1]

76. If one person would persuade another on matters pertaining

75 [1] I am going to register just one exception at this point, and after all it is more apparent than real, since it aims at clearer explanation, by an example, of the objective fact here in point. I shall have occasion hereafter to speak unfavourably, very much so, of certain acts by Athenian demagogues. Now I do not imagine the reader is especially concerned to know my global personal attitude towards the ancient Athenian republic. However, if I may be allowed to state it, I will say that I do not think anyone admires or loves the Greek mind more than I do. I shall poke fun at the "goddess Science," yet the fact stands that I have devoted my life to experimental science. One may ridicule the democratic humanitarianism of this or that French politician and still hold the scientists of that country in highest esteem, and even regard the republican form of government as perhaps the best for France. One may note the licentiousness of certain emancipated women in the United States and still cherish the deepest reverence for the many admirable wives and mothers who are to be found in that country. Finally, to point the finger of scorn at the hypocrisies of German sex-reformers is not inconsistent with admiration for their mighty nation and reverence for German scholarship. I deem it superfluous to note similar contrasts in the case of my own country, Italy. That is my whole confession. I urgently beg the reader to be convinced that this exception will have no counterparts. These volumes should be read not for something that is not there—a statement, namely, of my personal sentiments—but exclusively for reports on objective relationships between things, between facts, and between experimental uniformities.

to experimental science, he chiefly and, better yet, exclusively, states facts and logical implications of facts (§ 42). But if he would persuade another on matters pertaining to what is still called social science, his chief appeal is to sentiments, with a supplement of facts and logical inferences from facts. And he must proceed in that fashion if his idea is to talk not in vain; for if he were to disregard sentiments, he would persuade very few and in all probability fail to get a hearing at all, whereas if he knows how to play deftly on sentiments, his reputation for eloquence will soar (§ 514).[1]

77. Political economy has hitherto been a practical discipline designed to influence human conduct in one direction or another. It could hardly be expected, therefore, to avoid addressing sentiment, and in fact it has not done so. All along economists have given us systems of ethics supplemented in varying degree with narrations of facts and elaborations of the logical implications of facts. That is strikingly apparent in the writings of Bastiat; but it is apparent enough in virtually all writings on economics, not excluding works of the historical school, which are oftentimes more metaphysical and sentimental than the rest. As mere examples of forecasts based on the scientific laws of political economy and sociology (to the exclusion of sentiment), I offer the following. The first volume of my *Cours* appeared in the year 1896, but had been written in 1895, with statistical tables coming down not later than the year 1894.

1. Contrarily to the views of ethical sociologists, whether of the historical school or otherwise, and of sentimental anti-Malthusians, at that time I wrote with reference to population increase: "We are therefore witnessing rates of increase in our day that cannot have obtained in times past and cannot continue to hold in the future."[1] And I mentioned in that connexion the examples of England and Germany. As for England, there were already signs of a slackening. Not so for Germany, where there were as yet no grounds, em-

76 [1] This topic is touched upon just incidentally here. It belongs to our study of the objective aspect of theories (§ 13) and will be amply developed in due course.

77 [1] *Cours*, § 198.

pirically, for arriving at any conclusions whatever. But now both countries show a declining curve.[2]

2. With specific reference to England, after determining the law of population increase for the years 1801-91, I concluded that popu-

77 [2] *Ibid.*, § 196: "It is therefore quite evident that the population of the three countries considered cannot continue to increase indefinitely at the present rate." The three countries were Norway, England-Wales, and Germany. As regards Norway, the annual rate of geometric increase, which was 13.9 per cent for the period 1861-80, fell to 5.7 per cent for the period 1905-10. For England-Wales and Germany the figures are as follows:

	PERCENTAGE OF INCREASE	
YEARS	*England-Wales*	*Germany*
1880-85	11.1	7.1
1885-90	13.4	10.7
1890-95	11.5	11.3
1895-1900	11.5	15.2
1900-05	10.6	14.7
1905-10	10.4	13.7

"It is evident that after reaching a maximum in the years 1895-1900, the rate of population increase in Germany is now [1910] on a descending curve. The falling-off in rate is more clearly apparent still from the annual statistics of births per thousand:

	PERCENTAGE OF INCREASE		
YEARS	*Norway*	*England-Wales*	*Germany*
1875	31.2	35.4	40.6
1885	31.3	32.9	37.0
1895	30.5	30.3	36.1
1900	29.9	28.7	35.6
1905	27.4	27.3	33.0
1910	26.1	25.1	31.1 (for 1909)

"The falling-off in the rate of population increase in Germany is especially notable in the large cities, where wealth has appreciably increased:

	NUMBER OF BIRTHS PER 1000 INHABITANTS	
GERMANY	*1902*	*1912*
Munich	35.1	21.9
Leipzig	31.5	22.1
Dresden	31.5	20.3
Cologne	37.8	26.7
Magdeburg	29.2	22.8
Stettin	35.3	22.7
Danzig	34.7	27.6"

That substantiates what I wrote in my *Cours*, § 198: "It is therefore evident that forces limiting increment in population must have interfered with the genetic tendency in times past, or will do so in the future."

lation could not continue to increase at the same rate. And the rate has in fact fallen.[3]

3. "The gains made by certain Socialistic ideas in England are probably the result of an increment in the economic obstacles to population increase."[4] The soundness of that conclusion is even more apparent now. Socialism has progressed in England, while a falling-off has been observable in the other countries in Europe.

4. In Chapter XII we shall see a verification of a sociological law that I used in my *Systèmes socialistes.*

5. The second volume of my *Cours* was published in 1897. At that

77 [3] *Ibid.*, § 211 [1]. If P is the population in the year t, reckoning from the year 1801, we get:

$$\log P = 6.96324 + 0.005637t.$$

That yields the theoretical law of population for the years 1801-91. The following figures are given in my *Cours:*

YEARS	POPULATION (IN MILLIONS) *Real*	*Estimated*	*Difference*
1801	8.892	9.188	+ 0.296
1811	10.164	10.294	+ 0.130
1821	12.000	11.912	— 0.088
1831	13.897	13.563	— 0.334
1841	15.914	15.443	— 0.471
1851	17.928	17.583	— 0.345
1861	20.066	20.020	— 0.046
1871	22.712	22.795	+ 0.083
1881	25.975	25.953	— 0.022
1891	29.001	29.551	+ 0.550

The greatest difference, in other words the maximum error, arising in the application of the formula is 0.550. Using the formula to estimate population for the year 1910, we get 37.816, while the actual population was 35.796. The difference is + 2.020, a figure much greater than the maximum error. That proves that population is no longer following the law observable for the years 1801-91, and that it is increasing at a slower rate.

77 [4] *Ibid.*, § 211 [2]. The remark has to be taken in connexion with matter preceding, §§ 179-80: "Movements in the transformation of personal capital are in part dependent on the economic movement. It must not be forgotten that we have not shown their explicit dependence on the economic situation, but merely their dependence on variations in it. [In a note:] If the economic situation is characterized by a function F of any number of variables that are functions of the time t, then we have shown that the numbers of marriages, births, and to a certain extent also deaths, are a function of $\frac{dF}{dt}$; but we have not shown that such numbers are explicit functions of F."

time it was an article of faith with many people that social evolution was in the direction of the rich growing richer and the poor, poorer. Contrarily to that sentimental view, the law of distribution of income led to the proposition [5] that "if total income increases with respect to population, there must be either an increase in the minimum income, or a decrease in inequality in incomes, or the two things must result simultaneously." Between 1897 and 1911 there was an increase in total income as compared with population, and what in fact resulted was an increase in minimum income and a decrease in inequality in incomes.[6] A counter-proof, furthermore, is available in the fact that my *Cours* is defective in those sections into which sentiment was allowed to intrude.[7]

78. A person often accepts a proposition for no other reason than that it accords with his sentiments. Such accord, indeed, usually makes a proposition more "obvious." And from the standpoint of social utility in many cases it is perhaps well that that be so. But from the standpoint of experimental science, such accord has little value and often none whatever. Of that I shall give many examples.

79. Since I intend in these volumes to take my stand strictly within the field of experimental science, I shall try to avoid any appeal to the reader's sentiments whatsoever and keep to facts and implications of facts.[1]

80. When a writer is "doing literature" or addressing sentiments in any way at all, he finds it necessary, in deference to them, to choose between the facts he uses. Not all of them rise to the dignity of rhetorical or historical propriety. There is an aristocracy of facts reference to which is always commendable. There is a commonalty of facts reference to which incurs neither praise nor blame. There is a proletariat of facts reference to which is at all times improper

77 [5] *Ibid.*, § 965.

77 [6] A definition of "decrease in inequality in incomes" is given in *Ibid.*, § 965 [1]. See also my *Manuel*, pp. 389 f., and Sensini, *La teoria della rendita*, pp. 342-53, and especially p. 350, § 185.[4]

77 [7] A criticism of the passages may be found in the introduction to my *Manuale*, where the various errors are duly noted.

79 [1] That is why there will be so many notes with quotations. Their design is to keep the body of facts vividly present before the reader's mind.

and reprehensible. So amateur entomologists may find it pleasant to catch bright-coloured butterflies, just routine to catch flies and wasps, loathsome to lay hand to dung- and carrion-beetles. But the naturalist knows no such distinctions, nor do they arise for us in the field of social science (§§ 85, 896).

81. We keep open house to all facts, whatever their character, provided that directly or indirectly they point the way to discovering a uniformity. Even an absurd, an idiotic argument is a fact, and if accepted by any large number of people, a fact of great importance to sociology. Beliefs, whatever their character, are also facts, and their importance depends not on their intrinsic merits, but on the greater or fewer numbers of individuals who profess them. They serve furthermore to reveal the sentiments of such individuals, and sentiments are among the most important elements with which sociology is called upon to deal (§ 69-6).

82. The reader must bear that in mind, as he encounters in these volumes facts which at first blush might seem insignificant or childish. Tales, legends, the fancies of magic or theology, may often be accounted idle and ridiculous things—and such they are, intrinsically; but then again they may be very helpful as tools for discovering the thoughts and feelings of men. So the psychiatrist studies the ravings of the lunatic not for their intrinsic worth but for their value as symptoms of disease.

83. The road that is to lead us to the uniformities we seek may at times seem a long one. If that is the case, it is simply because I have not succeeded in finding a shorter. If someone manages to do so, all the better; I will straightway leave my road for his. Meantime I deem it the wiser part to push on along the only trail as yet blazed.

84. If one's aim is to inspire or re-enforce certain sentiments in men, one must present facts favourable to that design and keep unfavourable data quiet. But if one is interested strictly in uniformities, one must not ignore any fact that may in any way serve to disclose them. And since my aim in these volumes is no other, I refuse

out of hand to consider in a fact anything but its logico-experimental significance.

85. The one concession that I can make—and really it is not so much a concession as a grasp at some method for securing a far greater clearness by removing from the reader's eyes any veil that sentiment may have drawn across them—is to choose from the multitude of facts such as, in my judgment, will exert least influence upon sentiments. So when I have facts of equal experimental value before me from the past and from the present, I choose facts of the past. That accounts for my many quotations from Greek and Latin writers. (In the same way, when I have facts of equal experimental value from religions now extinct and religions still extant, I give my preference to the former.) But to prefer a thing is not to use it exclusively. (In many many cases I am constrained to use facts from the present or from religions still existing, sometimes because I have no other facts of an equivalent experimental value, sometimes in order to show the continuity of certain phenomena from past to present. In such connexions I intend to write with absolute freedom; and (the same frankness I maintain against the malevolence of our modern Paladins of Purity, for whom I care not the proverbial fig.[1])

86. In propounding this or that theory an author as a rule wants other people to assent to it and adopt it—in him the seeker after experimental truth and the apostle stand combined. In these volumes I keep those attitudes strictly separate, retaining the first and barring the second. I have said, and I repeat, that my sole interest is the quest for social uniformities, social laws. I am here reporting on the results of my quest, since I hold that in view of the restricted number of readers such a study can have and in view of the scientific training that may be taken for granted in them, such a report can do no harm. I should refrain from doing so if I could reasonably imagine that these volumes were to be at all generally read (§§ 14, 1403).[1]

85 [1] See in this connexion, Pareto, *Le mythe vertuiste*.

86 [1] Running, as it does, counter to the general trend in the social sciences, this work will be severely criticized by all individuals whose minds are closed to innovations from a habit of drifting with that current. They state the problem of judg-

87. Long ago in my *Manuale,* Chap. I, § 1, I wrote: "It is possible for an author to aim exclusively at hunting out and running down uniformities among facts—their laws, in other words—without having any purpose of direct practical utility in mind, any intention of offering remedies and precepts, any ambition, even, to promote the happiness and welfare of mankind in general or of any part of mankind. His purpose in such a case is strictly scientific: he wants *to learn, to know,* and nothing more. I warn the reader that in this *Manual* I am trying exclusively to realize this last purpose only. Not that I underrate the others; I am just drawing distinctions between methods, separating them and indicating the one that is to be followed in this book. Anyone differently minded can find plenty of books to his liking. He should feast on them and leave this one alone, for, as Boccaccio said of his tales [*Decameron,* X, *Conclusione*], it does not go begging a hearing of anybody."

Such a declaration seems to me clear enough, and I confess that I could not express myself in plainer terms. Yet I have been credited with intentions of reforming the world, and even been compared to Fourier![1]

ing a theory in the terms: "Is it in accord with the theories I consider good?" If the answer is yes, they classify it with the good theories, if no, with the bad. It is obvious enough that being at variance with all such theories, this one of mine will certainly be bad. It may find a warmer welcome among young people whose minds are not yet clogged with the preconceptions of orthodox science and among people who state the problem of judging a theory in the terms: "Is it in accord with the facts?" I must have made it sufficiently clear by this time that that is the only accord I seek, and that I have no interest whatsoever in anything else.

87 [1] In the year 1909 and with the *Manuale,* which had appeared in 1906, before his eyes, Professor Gide, *Histoire des doctrines économiques,* p. 623, was able to write: "The Hedonists [Among whom Gide counts V. Pareto—on what grounds, he only knows] are very reticent as regards the possibilities of realizing their economic world. On the other hand they are very positive, in fact a little too much so, as regards the virtues of their method, not being exempt on that score from a dogmatic conceit that reminds one of the utopian Socialists. One seems to be listening to Fourier when one reads that 'what has already been discovered in political economy is nothing as compared with what may be discovered hereafter'—by the mathematical method, of course." Gide ascribes his quotation to one "V. Pareto, [*"Le nuove teorie economiche"*], *Giornale degli economisti,* September, 1901." Even if the quotation were exact, M. Gide might at least have noted that V. Pareto had changed his views, as is apparent enough from his *Manuale.* But it is not exact, for M. Gide is thinking of *practice,* whereas I was thinking strictly of *pure theory!* A

88. In general, this method of studying the social sciences is not grasped by literary economists, the cast of their minds being against any such thing. Then again they often discuss books and other writings that they know only at second hand, and which they have never read, or never read with the care required for understanding them. Finally, the person who has always had some practical purpose in view can hardly be convinced that anyone can have a purely scientific aim; or if he does understand it for a moment, he immediately forgets. I have therefore little hope that the cautions I have voiced in this chapter will effectually prevent theories which I do not hold from being ascribed to me, similar warnings having failed on past occasions, though endlessly repeated. Yet it seems best to me to follow the maxim "Do what you ought, follow what may." Only I must beg my reader's pardon for certain repetitions that have no other justification, and which may appear superfluous—as they in fact are for anyone consenting to read what I say with moderate attention.

good guess would be that M. Gide had not read the article from which he quoted. My article says, p. 239: ". . . Now the outstanding trait in the new economic theories is that they are the only ones so far to have given us a general picture of the economic phenomenon as a whole. The picture is just approximative, much like a sphere offered as a model of the Earth. All the same we know of nothing better." On p. 241, as to "the equations of pure economics," I clearly state that they are of service only as instruments for study, much as it is of service to know, for instance, the dimensions of the terrestrial ellipsoid. On p. 242: "Pure economics, one may say, has indeed found the tool for its researches, but it has hardly begun to use it. Practically everything along that line is still to be done; and economists really devoted to the progress of their science ought to set about doing it." I was speaking of science, pure science, and not of practical applications, as Gide's allusion to Fourier would insinuate. I conclude, p. 252, with the quotation that Gide detached from its context—with a remodelling to boot: "We are in the first stages of the new science, and what it has already achieved is nothing as compared with the results it may achieve hereafter. The present state of pure economics is not even comparable to the state of astronomy after the appearance of Newton's *Principia*." The parallel I drew was with an abstract science, astronomy, not with a concrete science. In the rest of his article Professor Gide continues to ascribe to me opinions and theories that I have never held and which I have even disputed as directly opposite to theories actually mine. For further details see my article, *Économie mathématique,* in the *Encyclopédie des sciences mathématiques* [Meyer, Vol. I, pp. 1094-1120, *s. v. Anwendungen der Mathematik auf Nationalökonomie;* Molk, Vol. I, pp. 591-640] and in *Giornale degli economisti,* Nov., 1906, p. 424.

89. This is not the place to add further details touching my manner of regarding economic theories.[1] The reader will find excellent and ample expatiations on that point in the works of Sensini and Boven already referred to.

90. We saw (§§ 13, 63) that our subclass of logico-experimental theories (I*a*) was divisible into two varieties, in one of which general principles were mere abstractions from experimental facts, while in the other they aspired more or less explicitly to an existence of their own not strictly dependent on mere abstraction from facts. The two varieties are often distinguished as based on the *inductive* or the *deductive* methods. But that is not exact. They differ not in the method they use, but in their respective criteria of truth for propositions and theories. In the strict type, I*a*1, whether propositions are obtained by induction or by deduction or by a mixture of the two, they are always subordinate to experience; whereas in the deviation from the type, I*a*2, they tend explicitly to dominate experience. When a general principle is corroborated by facts in large numbers as, for instance, the principles of Euclidean geometry or of universal gravitation are, the two varieties are not very sharply distinguished, for after all the experimental verification may often be taken for granted.

91. But if the gap between the two varieties is very marked, a difference appears that is the better seen in a comparison between theories which are logico-experimental (I*a*) and theories which are not. In the former procedure is gradual. One starts with facts and reaches this or that abstraction, thence going on to a more general abstraction, becoming more and more circumspect, more and more cautious, the farther one gets from direct experience. In non-logico-experimental theories, a deliberate leap is taken away from direct experience, as broad a leap as possible, and the farther one gets from direct experience, the greater the assurance, the greater the reckless-

89 [1] An altogether estimable person once asked whether my science were "democratic"! It has been said, in black and white, that it was "socialistic"; and then again that it was "reactionary." The science interested strictly in uniformities (laws) among facts is nothing of any of those sorts and can in no way be so labelled. It is just a quest for uniformities, and that is the end of it. Personally, I was a free-trader in my *Cours;* but in my *Manuale* I dropped that cloak, and I remain divested of it when dealing with science.

ness. One is bent on knowing the "essences" of things, the only kind of knowledge worthy of the name of "science," direct experience and its implications being mere "empiricism," and as such held in poor esteem (§ 530).

92. Working out a chemistry, for example, on that system, the first problem would be to know what "matter" is. Knowing that, we should know its chemical properties. The modern chemist, instead, following the methods and procedures of logico-experimental science, studies chemical properties directly, and gets more and more general properties or abstractions from them.

The ancients thought that in imagining cosmogonies they were studying astronomy. Modern scientists study the movements of the stars directly, and go no farther than required for establishing uniformities in such movements. Newton found that a certain hypothesis, the so-called hypothesis of universal gravitation, was all that was required for discovering the equations governing the movements of the stars. But what is gravitation? Neither he nor his successors in celestial mechanics took the trouble to go too deeply into that question. Not that the problem was not worth considering; but celestial mechanics can dispense with a solution of it. So long as its equations hold, it matters little how they are obtained.

93. Errors that are ancient history for the more advanced sciences recur or have their modern counterparts in the more backward sciences. So the theory of evolution has in some cases played a rôle in sociology similar to the rôle once played by cosmogony in astronomy. It was generally held that the only way to determine uniformities in social phenomena was to know the history of the latter and trace them back to their origins (§§ 23, 346).

94. For the theories that are to be elaborated in these volumes we cannot avoid going back to a distinction between the objective and the subjective phenomenon. However, we do not need to go beyond that and solve the problem as to the "reality of the external world," assuming (but not granting) that that problem has some exact meaning (§ 149).

95. Solve it as you will, the two great categories mentioned still

stand, even if under different names. It may well be that a sheet of paper with engravings on it and a genuine bank-note of the Bank of England are both mere thoughts of the mind; but if you dine at a London restaurant and try to pay your bill with the first of those thoughts, you will soon notice that just as "one thought is of another born," that thought will present you with a whole litter of offspring: first the thought of a policeman, which, whether objectively real or not, will hale you before the thought of a judge, which will introduce you to the thought of a well-barred jail, where you will meet a thought that the English call "hard labour," and which, according to all reports, is not the pleasantest thought in the world. All that will convince you that the two sheets of paper certainly belong to two sharply distinguished categories, since they give rise to differing facts—or differing thoughts, if you prefer.

Similarly, when we assert that to know the properties of sulphuric anhydride one must appeal to experience and not, as Hegelian metaphysics would have it, to the "concept" of sulphur or even of oxygen, we are not in the least intending to set an external world over against an internal world, an objective reality over against a subjective reality. We can state the same proposition in a jargon that recognizes the "existence" of nothing but thought. We can say, that is, that to get the concept of sulphuric anhydride, it is not enough to have the mere concepts of sulphur and oxygen and meditate upon them. We could do that for century on century without getting concepts of sulphuric anhydride that would gibe with the concepts supplied by chemical experiment. The ancient philosophers thought that they could replace observation and experience in just that way, but they were entirely wrong. Chemistry is learned in laboratories and not by philosophical meditations, even of the Hegelian brand (§ 14). To get the concept, or concepts, of sulphuric anhydride we must first have the many concepts acquired through the concept otherwise known as experience—burning sulphur in oxygen or in air, and collecting the concept of sulphuric anhydride in the concept of a glass container—finally bringing all such concepts together to get the concept of the properties of sulphuric an-

hydride. But such a jargon would be prolix, tedious, ridiculous; and just to avoid it we use the terms "subjective" and "objective." For the logico-experimental purposes we have in view no other terms are required.

96. In the same way and for the same reason it is enough for us to know that social facts reveal certain uniformities which are connected by ties of interdependence.[1] We are not called upon to go to the trouble of finding out whether and just how that result yielded by observation can be reconciled with what is called free will (if indeed the latter phrase has any meaning). Such problems transcend the limits of our investigations.

97. And we shall also neglect to inquire whether scientific laws have the trait of "necessity" (§ 528). On that point observation and experience can tell us nothing. They can only reveal certain uniformities, and those only within the limits of the time and space to which our observation and experience extend. Every scientific law, therefore, is subject to that qualification; and if, for considerations of brevity, it is omitted, the statement of every scientific law must nevertheless be taken as prefaced by the restriction: *within the limits of time and space known to us* (§ 69-5).

In like manner we hold aloof from debates as to the necessity of the conclusion in a syllogism. The syllogism of the text-books on logic, for example, "All men are mortal; Socrates is a man; therefore Socrates is mortal," from the experimental standpoint must be stated thus: "All men of whom we have had any knowledge have died; what we know of Socrates induces us to classify him with such men; therefore it is *very probable* that Socrates is mortal."

That probability is greatly enhanced by other circumstances which we shall specify farther along (§§ 531, 556); and it is therefore greater, enormously greater, than the plausibility of a syllogism that might have been drawn before the discovery of Australia: "All the swans we have ever known have been white; a bird of unknown

96 [1] ["Interdependence" is a technical term with Pareto—see our Index. The same concept is expressed in English by the words "correlation," "interrelation." —A. L.]

colour that has all the characteristics of the swan must be classed with the swans; therefore that bird will probably be white" (§ 526). People reasoning on essences may sometimes substitute certitude for probability, even very great probability. But we know nothing about essences and accordingly lose our certitude.

98. To assert, as some assert, that a miracle is impossible as violating the recognized constancy of natural laws is to reason in a circle and offer an assertion as proof of itself. If a miracle could be proved, the constancy of natural laws would at once go by the board. The kernel of the question therefore lies strictly in the proof of fact. We might add that such a proof has to withstand a scrutiny all the more severe, the farther it carries us outside the circle of known facts. If someone were to assert that the Sun is one day to carry its planetary system to a locality where the laws of chemistry, physics, and mechanics are different from the laws at present known, we could make no objection. We could only remind the prophet that the burden of proof rests upon the person making the assertion. As we have already stated (§ 29), we admit of no exceptions to this rule, even for the laws of logic.

99. Scientific laws are for us, therefore, nothing more than experimental uniformities (§ 69-4). From that point of view there is not the slightest difference between the laws of political economy or sociology and the laws of other sciences. The differences that do exist are of an entirely different character, lying chiefly in the greater or lesser complexity with which effects of the various laws are intertwined (§ 1792). Celestial mechanics has the good fortune to be able to deal with the effects of a single law (uniformity). And that is not all, for the effects might be such as seriously to interfere with the discovery of the uniformity they manifest. But by a most happy circumstance, the mass of the Sun is much greater than the masses of the various planets, so that the uniformity is disclosed under a simple though not strictly exact form by assuming that the planets move around a fixed Sun; whence we can go on to rectify the error involved in the first approximation. Chemistry, physics, mechanics,

99 [1] We shall see something remotely similar in the case of sociology (Chapter XII).

are likewise able to deal with separate laws, or at least, by one device or another, to isolate effects;[2] but then again, there are cases where the complex is hard to unravel. Such cases grow more numerous in biology and geology, and most of all in meteorology. It is with these latter that the social sciences are to be classed in this respect.

100. Another difference in scientific laws lies in the possibility or impossibility of isolating their effects by experiment, which is here to be distinguished from observation. Certain sciences, such as chemistry, physics, mechanics, and biology, can and do make extensive use of experiment. Certain others can use it but sparingly; others, such as the social sciences, little if any; still others not at all, as for instance, celestial mechanics—at least as regards the movements of the heavenly bodies.

101. Economic and social laws as well as the laws of the other sciences never suffer any genuine exception.[1] To speak of a uniformity that is not uniform is to say a thing which has no meaning. What is commonly called an exception to a law is really the superposition of the effect of another law upon its own normal effects. From that standpoint all scientific laws, even the laws of mathematics, suffer exceptions. All bodies on the surface of the earth tend to move toward the centre; but a feather caught by the wind moves away from the centre, and a balloon filled with hydrogen rises in the air. The chief difficulty in a great many sciences lies in finding ways to unravel tangles of many different uniformities.

102. To that end, it often helps to consider not the individual phenomena actually observed but average situations where the effects of certain laws are attenuated and those of others are emphasized. We cannot predict, for example, what the temperature on the tenth of June in some future year is going to be; but we can come pretty close to the mean temperature for the month of June, and closer still to

99 [2] Pareto, *Manuale,* Chap. I, § 20.

101 [1] Pareto, *Manuale,* Chap. 1, § 7. There are still professors of political economy who keep repeating parrot-like that economic laws have exceptions, while physical laws do not. Such "the ignorance that tormenteth them"! Not even with a spyglass could one find a physicist to class among unexceptionable physical laws the law that bodies diminish in volume as they cool.

the mean temperature over a three months' period for a number of years. No one can tell whether John Doe will live or die next year; but we can tell, approximately, how many people out of a hundred thousand of John Doe's age will die. Who can tell whether a given grain of wheat sown by a farmer will sprout and yield a return? But we can predict with reasonable probability the crop an acre of wheat will yield, and even better the average yield over a specified period of years.

103. We must not forget that such averages are largely arbitrary, that they are formulated by ourselves for purposes of our own, and that therefore we must avoid the error of thinking of them as objective things having an existence independent of the facts. One often finds them going about under different names as metaphysical entities, used by scholars to fix on something at least that is constant in the flux of fact.

104. In political economy, for instance, we find that the wholesale prices of commodities differ in almost every transaction. To get a theory we have to have something less variable, something more constant, than that. Scientifically we consider averages, we strike medium curves (interpolations).[1] Metaphysically, people have used an entity called value taken as a constant cause of variations in price. This second manner of reasoning easily leads astray, since it deprives averages of the status they have scientifically and gives them another that is altogether imaginary (§ 62). This statement, however, implies no criticism of early economists for using the term "value." But it was a notable step in advance when "exchange value" came to be distinguished from "utility value." Further progress derived the far more exact concept of "final utility" from the concept of "utility value"; and going on in that fashion, general theories of the economic equilibrium were finally attained. There is nothing unusual about such a course. It is the course the natural sciences have all followed (§§ 69[5], 106). But just as it is no longer possible in our day to study celestial mechanics with the tools of Ptolemy or even of

104 [1] One of the many forms of the method of successive approximations (§§ 69-9, 540).

Kepler, so political economy can no longer be handled with the indeterminate concept of value.[2]

105. In a first approximation we may be satisfied with knowing that, roughly, we have discarded certain effects of minor importance as compared with others of major importance. But it is wiser to get at the earliest possible moment a fairly exact picture of what the terms "minor" and "major" imply, and to know approximately what has been discarded and what has been kept. It will be all the better to determine, if we can, the limits of the variations between the situation as it really is—the facts—and the picture which our averages or theories give us of it. In mathematics, it is already something to know that the fraction 22/7 expresses the approximate relationship of the circumference of a circle to the diameter. It is better yet to know that the actual ratio is greater than 22/7; still better to know that the error is less than 0.015, or that the true ratio lies between the fractions 22/7 and 333/106. It is a good thing to know that prices are not numbers varying haphazard. It is better yet to know that there is some relation between them and the tastes of human beings and the difficulties lying in the way of obtaining commodities. It is even better to have some notion of what that relation is, and better still to have the concept more exact and know the relative importance of the situation pictured by the theory, as compared with the real situation, and to know just what aspects it ignores.

106. A concrete situation cannot be known in all its details; there is always a remainder, which is even physically apparent at times.[1] We can have only approximate concepts of concrete phenomena. A theory therefore can never account for all particulars. Divergences are inevitable, and the best we can do is reduce them to a minimum. And in this connexion too we are once more carried back to our successive approximations. Science is a continuous development; that is to say, every theory is supplanted by another which corresponds

104 [2] Pareto, *Manuale,* Chap. III, §§ 29-30, 35.

106 [1] Pareto, *Manuel,* p. 10. To humour the Hegelians we might say: "It has been observable that the concept of a thing which people have at a given moment is supplemented, as time goes by, with new concepts, and the series of additions, so far as we can tell, must be infinite."

more closely to the real facts. The theory of yesterday has been perfected today; the theory of today will be improved on tomorrow; that of tomorrow, on the following day; and so on. Such the story that is to be read on every page of the history of the sciences, and no one can suppose that it will not continue to be the story for a long long time to come. Since no theory absolutely commands acceptance, of the theories among which we are free to select we shall prefer the one that diverges least from facts of the past, which best enables us to foresee the facts of the future, and which, in addition, embraces the greatest number of facts.

107. In astronomy the theory of epicycles, which some people are at present trying to rehabilitate on sentimental grounds, satisfies the requirement of adequately picturing facts of the past as such facts are known to us. By multiplying the number of epicycles as often as is required, every movement of the stars that observation reveals can be represented; but we cannot, or cannot so well, foresee future movements, as is possible with the theory of gravitation. The latter theory, furthermore, utilizing the general law of mechanics, embraces a greater number of facts. Hence it is certainly to be preferred, as in fact is customary, to the theory of epicycles. But the choice is made for those reasons, or for others of the kind, not for metaphysical considerations as to the "essence" of things.

108. The facts among which we live have their influence upon us, and as a result our minds acquire certain attitudes which must not be too violently in conflict with those facts. Such attitudes go on to give form and manner to language. Some small amount of information as to external facts we can derive, therefore, from knowledge of the processes of the human mind and from language. But that small amount is small indeed, and once a science is at all advanced, more errors than truths are obtained in that fashion (§§ 113 f.).[1]

108 [1] That influence—nothing very definite, to tell the truth—of the facts upon our minds makes up such truth, experimentally speaking, as there is in theories ascribing a scientific status to intuition. Intuition serves about as much towards knowledge of reality as a poor, sometimes a very poor, photograph of a place serves towards knowledge of that place. Sometimes intuition supplies just a fanciful illusion, and not even a poor photograph, of reality.

The terms of common speech are lacking in definiteness, and it cannot be otherwise, for precision goes only with scientific exactitude. Every argument based on sentiment, as all metaphysical arguments are, must of necessity use terms lacking in exactness, since sentiments are indefinite and the name cannot be more definite than the thing. Such arguments, besides, actually rely on the lack of exactness in everyday language to mask their defects in logic and carry conviction (§ 109). Logico-experimental arguments, being based instead on objective observation, tend to use words strictly to designate things and therefore to choose them in such a way as to avoid ambiguities and have terms as exact as possible. Moreover, they eventually equip themselves with a special, technical language and so escape the indefiniteness of common parlance.

As already noted (§ 69-8), our purpose being to use logico-experimental reasoning exclusively, we shall exert every endeavour to use only words that are as far as possible precise and strictly defined, and which correspond to things unequivocally and without ambiguities (§ 119), or better, with a minimum of error.

A word designates a concept, and the concept may or may not correspond to a thing. But the correspondence, when it is there, cannot be perfect. Even if the word corresponds to a thing, it can never correspond to it exactly, in an absolute manner. It is always a question of a more or a less. Not only are there no such things, in the concrete, as geometric entities such as the straight line, the circle, and so on, but not even chemical substances that are *absolutely* pure, not even the species with which zoologists and botanists deal, not even an individual body designated by a name—for it would be further necessary to specify at just what moment it is considered: a piece of iron does not remain identical with itself if it is subject to changes in temperature, in electrical tension, and so on. In a word, the "absolute" has no place in logico-experimental science, and we must always take in a relative sense propositions that in the dress of ordinary parlance seem absolute; and in the same way too, we must make quantitative distinctions where common speech stops at the qualitative (§ 144[1]). That much being clearly grasped, any mis-

understanding is impossible; whereas to express ourselves always with absolute exactness would be to wallow in lengthy verbosities as useless as they would be pedantic.

We may say, then, that we are carried outside the logico-experimental field entirely whenever we reason in terms which do not lie in that field; and that we are carried partially outside it whenever we reason in indefinite terms which correspond to experimental entities only in part (Chapter X). This last proposition must be taken in the sense that if our terms have that minimum of indefiniteness which corresponds to the present state of knowledge, they take us so little outside the experimental field that we may overlook the extrusion. Though there are no chemical substances that are absolutely pure, the laws of chemistry are valid, in very close approximation, for the substances that our methods of analysis designate as pure.

109. People in the vast majority use common everyday language. A few scientists use scientific language in their specialties, outside of which they reason as badly as the plain man—and often worse. Human beings are prompted to acquire such knowledge as they have from common speech by two sorts of motives: first, because they assume that a word necessarily corresponds to a thing, whereby the name becomes everything and sometimes even acquires mysterious properties; and, second, because of the great ease with which a "science" can be so constituted, each person carrying within himself all that is required for that purpose, without going to the pains of long, difficult, and tedious researches. It is much easier to talk about antipodes than to go out and see if they are really there. To discuss the implication of a "principle of fire" or "damp" is much more expeditious than to prosecute all the field studies that have made up the science of geology. To ruminate on "natural law" is a much more comfortable profession than to dig out the legal codes of the various countries in various periods of history. To prattle about "value" and ask when and under what circumstances it is said that "a thing has value" is much less difficult than to discover and comprehend the laws of the economic equilibrium.

In view of all that, one readily understands how the history of

the sciences down to our time is substantially a history of the battles that the experimental method has had to fight and still has to fight against the methods of introspection, etymology, analysis of verbal expression. Defeated and put to rout in one place, the latter method bobs up in another. If it cannot fight in the open it dissembles, flattening out like a snake in the grass, and so succeeds in making its way into the very camp of the adversary under guise of something else.

110. In our day the method has been largely banished from the physical sciences, and the advances they have made are the fruit of that proscription. But it is still strutting about in political economy and more blatantly still in sociology; whereas if those sciences would progress, it is imperative that they should follow the example set by the physical sciences (§ 118).

111. Belief that the facts of the universe and their relationships could be discovered by introspection was general in a day gone by, and it still remains the foundation of metaphysics, which seeks a criterion of truth outside experience. In our day it found its complete expression in the lunacies of Hegel's *Philosophy of Nature*. One need hardly observe that mankind has never discovered the puniest uniformity in the facts of nature in that fashion (§§ 50, 484).

112. The positivism of Herbert Spencer is nothing but a metaphysics. Though Spencer asserts the relative nature of all knowledge, he still speaks of the relations of knowledge to "absolute reality." [1] He asserts the existence of an Unknowable, but claims, by an amusing contradiction, to know at least something about it.[2]

113. In all the rustle and bustle of our daily lives we cannot of course speak in the manner or with the severity of the logico-experi-

112 [1] *First Principles*, § 46. "Thought being possible only under relation, the relative reality can be conceived as such only in connexion with an absolute reality; and the connexion between the two being absolutely persistent in our consciousness, is real in the same sense as the terms it unites are real." All of Spencer's writing is packed with such concepts.

112 [2] Here is an example selected at random: *Ibid.*, § 48: "Such being our cognition of the relative reality, what are we to say of the absolute reality? We can only say that it is some mode of the Unknowable, related to the Matter we know as cause to effect." There are people who will tell you they understand that.

mental sciences (§§ 108-09), and we are therefore led to ascribe great importance to words. Whenever we are able to give a name to a thing, it succeeds by that sole fact in finding a place in a class of objects of which the properties are known, and its properties therefore also become known. Furthermore—and it is the point that really matters—the thing is viewed in the light of the sentiments the name arouses, and it is to its advantage, therefore, to have a name that awakens favourable sentiments and to its disadvantage to have a name inspiring unfavourable sentiments.[1]

In practical life it would be difficult, nay impossible, to do otherwise. We cannot go to the bottom of all the multifarious questions that are at every moment arising—we cannot test everything in the crucible of doubt. Once we admit that a man's hat is his, that is the end of it; he puts it on his head and goes his way; and we could not, before permitting him to take it, debate the real nature of property, nor settle the problem of individual or collective property or other problems of the kind.

In civilized countries civil and penal laws have an exact terminology; and so in order to pass judgment upon an act one must first know the name by which it can be designated. Ordinary speech too has maxims in large numbers, which, save for exactness, in which they are usually wanting, are like the articles in a code of law; so for maxims too the name to be given to an act or a thing is of great importance. The legislator uses terms in the meanings they commonly have among the people for whom he is legislating. He need not wait for scientists to agree upon a definition of the term "religion" before he makes laws governing sacrilege, religious freedom, and the like. We talk of numberless things offhand, never exactly defining their nature and traits. Practical life evolves in the approximate. Science alone aims at the precise.

Within the sphere of that approximate we get theorems that correspond to facts so long as they are not extended beyond the scope, at times very limited, within which they are valid. Ordinary language crystallizes and preserves them, and it is there that we can

113 [1] Of that we shall give many examples in the pages that follow.

recover and use them, but always with the reservation that, roughly approximative and true only within certain limits (which as a rule are unknown to us), they become false outside those limits (Chapter XI). Such theorems are theorems of words rather than of things; and we can therefore conclude that in practical life, for purposes of influencing others, and oftentimes in the early beginnings of the sciences, words are of great importance, and that it is by no means a waste of time to quarrel over them.

114. But as regards investigations in experimental science our conclusion must be precisely opposite. Such researches envisage things exclusively, and can therefore derive no advantage from words. They can, however, incur great harm, whether because of the sentiments that words arouse, or because the existence of a word may lead one astray as to the reality of the thing that it is supposed to represent (§§ 366-67), and so introduce into the experimental field imaginary entities such as the fictions of metaphysics or theology; or, finally, because reasonings based on words are as a rule woefully lacking in exactness.

115. So the more advanced sciences develop languages of their own as a result both of coining new terms and of giving special meanings to terms of ordinary parlance. The "water" of chemistry, the "light" of physics, the "velocity" of mechanics, have senses very different from the meanings of those identical words in everyday usage.

116. A simple device often serves to determine whether an argument is of the variety that relies on sentiment or on the assistance of the more or less vague notions stored up in the vernacular, or of the variety peculiar to experimental science. It is sufficient to substitute plain letters of the alphabet, *a, b, c* . . . for the key-words in it. If the argument loses cogency, it belongs to the first class; if it retains its full vigor, it belongs to the second (§ 642).

117. Like other sciences, political economy began by using terms from the vernacular, trying merely to give them meanings somewhat more exact; and so it became enriched with the wealth of experience accumulated in everyday language—a capital by no means

inconspicuous, for economic operations make up a large fraction of human activity. But then gradually, as political economy progressed, that advantage waned, and the drawbacks involved in the use of such terms became more and more irksome. Jevons in his day very wisely dispensed with the word "value," which from being stretched in this, that, and every direction, and from having countless meanings, ended by having no meaning at all (§ 62 [1]); and he proposed a new term, "rate of exchange," of which he gave an exact definition (§ 387).

118. Literary economists did not follow him along that road; and they are to this day still dilly-dallying with speculations such as "What is *value?*" "What is *capital?*" They cannot get it into their heads that things are everything and words nothing, and that they may apply the terms "value" and "capital" to any blessed things they please, so only they be kind enough—they never are—to tell one precisely what those things are. If their arguments partook of experimental science, they would continue to hold even if blanks were used for the terms "value" and "capital"; for the name being taken away, the things still stand, and it is in things alone that experimental science is interested.[1] But since such arguments are primarily rhetorical, they are strictly dependent on words capable of arousing the sentiments that are useful in convincing people; and that is why literary economists very properly are so much concerned

118 [1] In my *Manuale* I showed that economic theories can just as well be elaborated without mention of the terms "value," "price," "capital," and the like. Literary economists cannot see it that way; and to an extent they are right, since for them the term "capital," let us say, designates not a thing but a sum of sentiments, and naturally enough they want to keep a term to designate that sum. To humour them, the thing might be called "objective capital," and the complex of sentiments "subjective capital." Then one could say: "Economic theories concerned exclusively with investigating relationships between economic facts have nothing to do with the concept 'subjective capital.' They may or may not, as they choose, utilize the concept 'objective capital.'" And going on: "Economic theories that aim at making converts and thereby at achieving some practical result can turn the concept of 'subjective capital' to good account, converts being made by appeals to sentiment. For that reason it is the wiser part for them to create a confusion between the notions of 'objective capital' and 'subjective capital,' so that the scientific argument will not avail against the sentimental argument." At some few points such theories approximate the concrete more closely than the theories of pure

about words and much less about things. Anyone asking what value *is,* what capital *is,* what income *is,* and the like, shows by that mere fact that he is concerned primarily with words and secondarily with things. The word "capital" certainly exists for him. What he is in doubt about is what it means, and he sets out to discover that. This procedure might be justifiable on a reasoning developed as follows: "There is something unknown that acts upon language and gives rise to the word 'capital.' *Since ordinary words are exact copies of the things they represent,* we can understand the thing by studying the word. So by finding out what capital is, we shall come to know the thing unknown." The fallacy in the justification lies in the proposition italicized. It is false. For more convincing proof one need simply substitute for the term "capital" some scientific term such as "water," and see whether the most painstaking inquiry as to what it is that is called water will ever reveal the properties of the chemically pure substance known by that name.

In science the course followed is the exact opposite: first one examines the thing and then hunts up a name to give it. First one considers the substance formed by combining oxygen and hydrogen, and then a term is sought to designate it. Since the substance in question is present in great quantities in the vaguely defined thing that the ordinary vernacular designates as water, we call it water. But it might have been called otherwise—"lavoisier," for instance—and all of chemistry would stand exactly as it is. We would simply say

economics, for they inject into the concept of "subjective capital" sociological notions that have no place in scientific economics. But they still have the fatal defect of being entirely devoid of exactness. If one would get closer to the concrete, instead of introducing sociological concepts implicitly and as it were by stealth, it would be better to advance them openly: that would make at least a certain amount of definiteness unavoidable. All such things can be better seen from Sensini's *La teoria della rendita.*

The concept "subjective capital" becomes of prime importance to sociology, which is in fact directly concerned with the sentiments expressed in such terms; and since the concrete phenomenon is both economic and sociological, anyone studying it in applied economics inevitably encounters notions analogous to "subjective capital." That is why, in my *Manuale,* I examined concrete phenomena not only from the strictly economic standpoint, but also as regards the manners in which they are conceived by the individuals involved in them (see the caption *Veduta soggettiva* in the index to the *Manuale*).

that the liquid present in rivers and in the sea contains great quantities of lavoisier. Literary economists and sociologists do not understand such things, for they are wanting in the mental attitude and the training required for understanding them.

119. In these volumes we intend to keep strictly to the logico-experimental method (§ 108) and deal exclusively with things. Words therefore are of no importance whatever to us; they are mere labels for keeping track of things. So we say, "Such and such a thing we are going to call *A*"; or, "We suggest calling it *A*." We do not say—an entirely different matter—"Such and such a thing is *A*." The first proposition is a definition, and we are free to word it as we choose. The second is a theorem, and requires demonstration; but before we can prove it we have to know exactly what *A* is (§ 963).

To avoid in these volumes the danger, ever threatening in the social sciences, that meanings of words will be persistently sought not in the objective definitions supplied but in common usage and etymology, we would gladly have replaced word-labels with letters of the alphabet, such as *a, b, c* . . . or with ordinal numbers; and that we have done for some parts of our exposition (§ 798). We have refrained from doing so more often in fear lest our argument become altogether too tedious and obscure. So here we follow the example of the chemist who continues using the term "water" but gives it an exact meaning.[1]

We too shall use terms of ordinary parlance, explaining exactly what they are to represent. We accordingly urge the reader to keep strictly to such definitions and never to try to guess from etymology or common usage the meanings of the technical terms that he finds in these volumes. The reader will shortly be meeting the terms "residues" and "derivations" (§ 868). If he desires to know what they mean, let him refer exclusively to the definitions we furnish. If he

119 [1] One should here recall the points alluded to in § 108. There is nothing absolute in logico-experimental science. Here the term "exact" means "with the least possible margin of error." Science tries to bring theory as close to the facts as possible, knowing very well that absolute coincidence cannot be attained. If, in view of that impossibility, anyone refuses to be satisfied with approximate exactness, he had better emigrate from this concrete world, for it has nothing better to offer.

were to seek their meaning in etymology or common acceptation, he would be certain to find things very different from the things we label with them. If anyone does not like them, he may feel quite free to replace them with others—we shall never quarrel on that score. And he will see that with his own terms, or better yet, using letters of the alphabet or numerals, all our arguments will stand just the same.

Anyone finding these explanations superfluous must be patient. My excuse is that similar explanations ever and anon repeated for my term "ophelimity" did not prevent literary economists from seeking its meaning in etymology; while others, who must truly have had a deal of time to waste, began wondering whether "desirability" would not have been a better name.[2] Nor could I silence such idle prattle by showing that we could very well do without "ophelimity" and all other similar terms in developing economic theories.[3]

120. In these volumes I shall use, for the reasons just stated, a number of terms that are also used in mechanics. I must accordingly make clear the exact senses in which I use them.

121. Let *A, B, C* . . . stand for certain things that have a capacity for influencing an economic or social situation. We may consider the situation either at a moment when the action of such things is not yet exhausted, or at a moment when it is entirely spent. Let *A*, for instance, stand for an individual's desire to drink wine, and *B* for a fear he has that it may injure his health. The man drinks one glass of wine, then a second, and then he stops, because after the second glass the fear effectively curbs the thirst. After the first glass the movement is not complete: the thirst is still effective in spite of the fear. Not even the fear has completed its work, because it has not yet quenched the individual's desire for drinking wine. It is evident that when we are considering a situation we have to specify

119 [2] Pareto, *Manuel*, p. 556, note 1.

119 [3] For other misconceptions arising from lack of exactness in language and from the prattle of literary economics, see my *Manuel*, pp. 219, note 1; 246, 329, note 1; 333, note 1; 391, note 1; 414, 439, note 1; 544, note 1; 636, note 1; 638, note 1; but especially, Sensini, *La teoria della rendita*, and Boven, *Les applications mathématiques à l'économie politique*.

whether we are considering it at a time when the things *A, B* have not completed, or at a time when they have completed, their action.

In mechanics there is an analogous situation—analogous, notice, not identical—where two forces are acting upon a physical point. So instead of speaking of two *things, A, B,* that have a capacity for influencing an economic or a social situation, we may for the sake of brevity speak of two *forces, A* and *B.*

122. The intermediate stage in which the individual has drunk the first glass of wine and is about to drink another, in which, that is, the work of *A* and *B* is not yet completed, is described in mechanics by saying that an equilibrium has not yet been attained. The stage in which both the thirst and the fear have completed their work, so that the individual ceases drinking, is described in mechanics by saying that an equilibrium has been attained. By analogy, not from identity, we may likewise use the term *equilibrium* for an economic or a social situation.

123. But an analogy is not a definition; and we should be deliberately exposing ourselves to ready and frequent error were we satisfied with such an analogy to represent the social or economic equilibrium. We are therefore called upon to give an exact definition of the economic or social equilibrium in question; and the reader will find it in Chapter XII.

124. Keeping to the definition of the thing, we can change the term at will and the arguments will stand just the same. For example, instead of calling *A* and *B* "forces," we might call them "influences" ("operative things") or even "things *I.*" The state defined above we might call τέλος, or even "state *X,*" instead of "equilibrium." In which cases all the arguments in which we have used the terms "forces" and "equilibrium" would still hold.

125. It is therefore a monumental stupidity to say, as one critic said, that when I speak of a state of equilibrium, I am thinking of a state which I consider *better* than another state, equilibrium being better than lack of equilibrium!

126. By similar analogy we can use other terms from mechanics in economics and sociology. Suppose we are considering a society in

which private property exists. We may propose to study the possible forms of such a society, premising always the condition that private property exist. In the same way other relationships supply other conditions that we may assume or not assume as premises. Similar situations are met with in mechanics, and there the conditions in question are known as *ties (vincula)*. By analogy, we can use that term in economics and sociology as well.[1] However, if there were no other analogies with mechanics it would be useless to do that, and better in particular not to use the term "tie."

127. Suppose we are considering a system of material points maintained by certain *ties*, and upon which certain forces *A, B, C* . . . are acting. The successive positions of the points will be determined by the resultant of the forces as modified by the ties. Now take a given group of individuals. Certain conditions prevail, such as private property, freedom (or slavery), technical training, wealth, scientific knowledge, religion, and so on. Active also in the group are certain individual desires, interests, prejudices, and the like. The successive states of the group may be assumed as determined by these latter elements working in conjunction with the conditions (the ties) premised.

128. So by analogy—never from identity—we can call the group a social or an economic system and say that certain forces are acting upon it, which determine the position of the points in the system in conjunction with the ties. Considerations of brevity solely and strictly counsel the use of such terms, and as always they may be replaced by others at pleasure.

129. A transition from one state to another is called a *movement* in mechanics, and it may be so called in sociology also. In mechanics, if we assume that ties and forces are determined, movements in the system are likewise determined. So in sociology, if we assume conditions and active influences as given, the various successive states of

126 [1] [Pareto's word was *vincolo*, "bond." The *vincolo* is a force that conditions the operation of another force. The term *vinculum* itself has a certain currency in technical sociologies. In most connexions it can well be translated as "condition," or "check," and more generally as "correlation," or even as "premise." In deference to the baroque quality of Pareto's own term, I render it regularly as "tie."—A. L.]

the group are determined. Such movements are called *real* in mechanics, and may be so called in sociology.

130. If, for theoretical purposes, we assume as suppressed some tie in a mechanical system, some condition in a sociological group, the mechanical system will show movements different from the real, and the sociological group will attain states other than those it really attains. Such movements are called *virtual* in mechanics, and *virtual* they may be called in sociology. For example, a person investigating what society would be like if private property were to be abolished is making a study in virtual movements.

131. We can think of the "ties" and "forces" in the social system as summed together; and if we designate the aggregate by the term "conditions," the so-called theory of determinism could be stated by saying that the state of a system is wholly determined by "conditions" and can therefore change only with a change in "conditions." [1]

132. Science has no dogmas, and so cannot and must not accept determinism *a priori;* and so far as it does accept it, it must, as always, do so strictly within the limits of the time and space that have been investigated. With that premise solidly established, experience indicates that in many cases social situations seem really to be determined by "conditions" and change only with changes in "conditions." In such cases we therefore recognize determinism, but without in the least precluding that there may be other cases where it cannot be granted.[1]

133. From the standpoint of the deterministic hypothesis, we are now called upon to solve a problem that is continually arising in one

131 [1] Here, accordingly, the term "conditions" has a different and more comprehensive meaning than it had in § 126.

132 [1] Naville, review of Bergson, *Op. cit.*, p. 11: "I am well aware that determinism has its fascination for the scholar and affords great satisfaction to the scientific mind. [More exactly, "to the theology of Reason."] Determinism is the belief [That word alone should serve to give warning that we are overstepping the boundaries of experimental science.] that everything can be explained, and what the scientist wants is explanations. Determinism is the conviction that all phenomena can be understood, associated, that is, with other phenomena that envelop and produce them. . . . But however natural the inclination [to determinism] may be, it proves nothing, and not all scientists succumb to it."

form or another in history and sociology. According to determinism, whatever happens cannot happen otherwise; and so the terms "possible" and "impossible" as used in ordinary language have no meaning, since only that is possible which happens, and what does not happen is impossible. We do not choose to quarrel over words; so if anyone is inclined to throw such terms overboard, let us do so by all means. All the same, after they have been dispensed with we are still confronted with the different things that were designated by them, and for which it will be expedient to find other designations.

John Doe did not have his dinner yesterday, but speaking in ordinary terms, it was "possible" for him to dine. He did not cut off his head; but it was "impossible" for him to cut off his head, then glue it on again and be alive and well today. It may well be that from the standpoint of determinism the two things are equally impossible; but it is also evident that they are different kinds of things, and it would be a grave misfortune if we were unable to designate the different classes to which they belong. Suppose, for the moment, we label the first class (I) and the second (II). It is at once apparent that the difference between (I) and (II) lies in the fact that cases like (I) have been often enough observable, whereas no case like (II) has ever been seen.

134. To be more exact: in both cases we are dealing with "virtual" movements; and in declaring them both impossible, determinism is merely calling them virtual as opposed to real movements. But there is more than one class of virtual movements. There is a class of virtual movements that take place when we assume as absent a certain tie which was not absent at the time the real movement in question was observed, but which has been found absent on other occasions, when real movements equivalent to the virtual movement have been observable. That movement therefore belongs in the class we have called (I) and which, in ordinary langauge, is a class of possible things. There is another class of virtual movements that would take place only if we assumed as absent a tie which has never been found absent, so that real movements equivalent to such virtual movements have never been observed. These belong to the class

we have called (II), which in ordinary terms is a class of impossible things. Having so supplied exact definitions of the things that the terms "possible" and "impossible" designate, there can be no objection to using them even with the hypothesis of determinism.

135. Of what conceivable use can the study of virtual movements be if they are things foreign to the domain of reality and only real movements actually occur? The advantages are, in chief, two:

1. If we are considering virtual movements that have not been real because of the presence of ties which have been found absent on other occasions—if, in other words, we are considering movements that are virtual in some cases but are observable as real in others—knowledge of the virtual movements may help to foresee what the real movements are going to be like. Such, for instance, are forecasts as to the effects of a certain piece of legislation or of some other practical measure.

2. Consideration of virtual movements may help towards isolating and determining the character and peculiarities of a given social state.

136. The propositions "*A* determines *B*" and "If there were no *A* there would be no *B*" state the same fact, in the one case as a function of *A*, in the other in terms of a virtual movement. The propositions "In such and such a state society has a maximum of *A*" and "If society departs from that state, there will be a diminution in *A*" express the same fact, in the first case as a description of the state, in the second in terms of a virtual movement.

137. In the social sciences, virtual movements are to be resorted to with great caution, for very very often we have no means of knowing what the consequences of suppressing some condition, some tie, would be. If a person says, "If the Emperor Julian had continued very long on the throne, the Christian religion would not have survived," he is assuming that the death of Julian was alone responsible for the triumph of Christianity. And if one answers, "If the Emperor Julian had continued longer on the throne, he might have retarded, but could not have prevented, the triumph of Christianity," one is assuming that there were other conditions present which

made that triumph certain. In general, propositions of this second variety are more often verifiable than are propositions of the first kind. In many cases, that is, social developments are determined by the concurrent action of large numbers of conditions; so that the removal of any one of them disturbs the course of events but slightly.

138. Conditions, furthermore, are not independent. Many of them influence each other. Nor is that all. The effects of conditions react in turn upon the conditions themselves. In a word, social facts—that is to say, conditions and effects—are *interdependent,* and modifications in one of them react upon larger or smaller numbers of the others, and with greater or lesser intensities.

139. That is why attempts to remake history by conjecturing what would have happened had a certain event never occurred are altogether fatuous. We have no way of determining all the changes that would have taken place on a given hypothesis if the hypothesis had come true. What would have happened had Napoleon won at Waterloo? Only one answer is possible—"We do not know."

140. We can get something a little better by keeping to effects that are very immediate in a very limited field, and progress in the social sciences will tend gradually to enlarge those very restricted confines. Every time we succeed in discovering some hitherto unknown relation between social facts, we are a little better prepared to know what the effects of certain changes in the social situation will be; and pushing on along that road we make new advances, however slight, towards realizing the purpose of determining the probable course of social developments in the future. Therefore no study that aims at discovering some uniformity in the relations of social facts can be called useless. It may be useless at the present time and continue to be so in any near future; but we cannot be sure that the day will not come when, taken in conjunction with other discoveries, it will contribute towards forecasting probabilities in social evolution.

141. The difficulties in discovering social uniformities are great because of the great complexity of social phenomena. They are immeasurably increased, and in fact become insuperable, when uni-

formities are sought not with the one and undivided intent of discovering them, but with the purpose, explicitly chosen or tacitly set by sentiment, of justifying a preconception, a doctrine, a faith. Just such impediments account for the present backward state of the social sciences.

142. The man entirely unaffected by sentiments and free from all bias, all faith, does not exist; and to regard that freedom as an essential prerequisite to profitable study of the social sciences would amount to saying that such study is impossible. But experience shows that a person can as it were divide himself in two and, to an extent at least, lay aside his sentiments, preconceptions, and beliefs when engaged in a scientific pursuit, resuming them afterwards. That was the case with Pasteur, who outside his laboratory was a devout Catholic, but inside kept strictly to the experimental method. And before Pasteur one might mention Newton, who certainly used one method in discoursing on the Apocalypse and quite another in his *Principia*.

143. Such self-detachment is more readily achieved in the natural sciences than in the social sciences. It is an easy matter to look at an ant with the sceptical disinterestedness of experimental science. It is much more difficult to look at human beings that way. But even if complete success in such an effort is impossible, we can at least try to succeed in part, and reduce the power and influence of sentiments, preconceptions, beliefs, to a minimum. Only at that price can progress in the social sciences be achieved.

144. Social facts are the elements of our study. Our first effort will be to classify them for the purpose of attaining the one and only objective we have in view: the discovery, namely, of uniformities (laws) in the relations between them. When we have so classified kindred facts, a certain number of uniformities will come to the surface by induction; and after going a good distance along that primarily inductive path, we shall turn to another where more ample room will be found for deduction. So we shall verify the uniformities to which induction has carried us, give them a less empirical, more theoretical form, and see just what their implications are, just what picture they give of society.

In general we have to deal with things that vary by imperceptible degrees, and our picture of them approximates reality the more closely in proportion as it is drawn in *quantitative* terms. That fact if often recognized by saying that as sciences progress, they tend to become more and more quantitative. But that is much more difficult than to study merely qualitative differences. In fact, the first forward step lies always in a rough quantitative approximation.[1]

It is no difficult matter to distinguish day from night with tolerable accuracy. Though there is no precise instant at which day ends and night begins, we can after all roughly say that there is a qualitative difference between them. It is more difficult to divide such periods of time into parts. We manage to do so approximately by saying "shortly after sunrise," "towards noon," and the like; and with more or less success—less rather than more—the night used to be divided into "watches." When clocks came to be available, it was possible to get quantitative measurements of time, the exactness increasing with improvements in clocks and becoming very considerable with the modern chronometer.

For a long time people were satisfied with knowing that the death-rate was higher among the aged than among the young, no one as usual knowing very definitely where youth ended and old age began. Then something more was learned; statistics were made available, very imperfect statistics at first, then better ones, now fairly good ones—and they are steadily improving. For a long time there was very little of the quantitative about political economy.

144 [1] The terms "quality," "quantity," "qualitative," "quantitative," will at all times be used in these volumes not in any metaphysical sense but in the sense commonly used in chemistry in contrasting qualitative with quantitative analysis. The one shows, for instance, that a given substance is an alloy of gold and copper; the other shows the weight of gold and the weight of copper present in a given weight of the alloy. Whenever we note the presence of a certain element in a sociological complex, we are stating a *qualitative* proposition. When we are in a position to designate, however roughly, the intensity of that element, our proposition becomes *quantitative*. Unfortunately no scales are available for weighing the things that are dealt with in sociology, and we shall generally have to be satisfied with designating quantities by certain indices that increase or diminish with the thing itself. An interesting example of that method applied to political economy is provided in my use of indices of ophelimity (see my *Manuale*, Appendix).

Then it became quantitative in pure economics—in theory at least. For sociology we shall try as far as we can to replace qualitative considerations with considerations of quantity. (Imperfect, very imperfect, as they may be, they will at any rate be a little better than the qualitative.) We shall do what we can, our successors will do better—and so science advances!

In these volumes we shall confine ourselves to a very general picture—something like a sphere offered as a model of the Earth. That is why I call this a *general* sociology. Details will still be left for future study—much as oceans, continents, and mountains have to be drawn in on the sphere of the Earth. Such studies would make up a *special* sociology. Incidentally, however, we shall examine not a few special themes in the course of these volumes; for (we shall be meeting them all along the path we shall have to traverse in getting our picture of society in general.)

CHAPTER II

Non-logical Conduct[1]

145. So far we have stated our attitude in writing these volumes and the field in which we intend to remain. Now we are to study human conduct, the states of mind to which it corresponds and the ways in which they express themselves, in order to arrive eventually at our goal, which is to discover the forms of society. We are following the inductive method. We have no preconceptions, no *a priori* notions. We find certain facts before us. We describe them, classify them, determine their character, ever on the watch for some uniformity (law) in the relationships between them. In this chapter we begin to interest ourselves in human actions.[1]

146. This is the first step we take along the path of induction. If we were to find, for instance, that all human actions corresponded to logico-experimental theories, or that such actions were the most important, others having to be regarded as phenomena of social pathology deviating from a normal type, our course evidently would be entirely different from what it would be if many of the more important human actions proved to correspond to theories that are not logico-experimental.

147. Let us accordingly examine actions from the standpoint of

[1] [Pareto, following Bentham, invariably uses the word "actions" (*azioni*) where ordinary English parlance uses "conduct" or "behaviour." Such phrases as "logical actions" and "non-logical actions" often lead to syntactical and other paradoxes in Pareto's text that have contributed not a little to his occasional obscurity. For mere convenience *azioni* is rendered here by "conduct," "behaviour," "acts," "actions," more or less interchangeably. The literally-minded reader can always recover the feel of the original Italian by understanding those words as "actions" with constructions in the plural. More troublesome still to the translator is Pareto's use of the phrase "non-logical actions" for "the sentiments (or "impulses" or "residues") underlying non-logical actions," or for "the principles of non-logical actions." There is no extricating him from that situation, and in it as a rule I leave him.—A. L.]

145 [1] Originally written in French, this chapter was in part translated into Italian by the *Rivista italiana di sociologia,* and published in that review, May-August, 1910.

their logico-experimental character. But in order to do that we must first try to classify them, and in that effort we propose to follow the principles of the classification called natural in botany and zoology, whereby objects on the whole presenting similar characteristics are grouped together. In the case of botany Tournefort's classification was very wisely abandoned. It divided plants into "herbs" and "trees," and so came to separate entities that as a matter of fact present close resemblances. The so-called natural method nowadays preferred does away with all divisions of that kind and takes as its norm the characteristics of plants in the mass, putting like with like and keeping the unlike distinct. Can we find similar groupings to classify the actions of human beings?

148. It is not actions as we find them in the concrete that we are called upon to classify, but the elements constituting them. So the chemist classifies elements and compounds of elements, whereas in nature what he finds is mixtures of compounds. Concrete actions are synthetic—they originate in mixtures, in varying degrees, of the elements we are to classify.

149. Every social phenomenon may be considered under two aspects: as it is in reality, and as it presents itself to the mind of this or that human being. The first aspect we shall call *objective,* the second *subjective* (§§ 94 f.). Such a division is necessary, for we cannot put in one same class the operations performed by a chemist in his laboratory and the operations performed by a person practising magic; the conduct of Greek sailors in plying their oars to drive their ship over the water and the sacrifices they offered to Poseidon to make sure of a safe and rapid voyage. In Rome the Laws of the XII Tables punished anyone casting a spell on a harvest. We choose to distinguish such an act from the act of burning a field of grain.

We must not be misled by the names we give to the two classes. In reality both are subjective, for all human knowledge is subjective. They are to be distinguished not so much by any difference in nature as in view of the greater or lesser fund of factual knowledge

that we ourselves have. We know, or think we know, that sacrifices to Poseidon have no effect whatsoever upon a voyage. We therefore distinguish them from other acts which (to our best knowledge, at least) are capable of having such effect. If at some future time we were to discover that we have been mistaken, that sacrifices to Poseidon are very influential in securing a favourable voyage, we should have to reclassify them with actions capable of such influence. All that of course is pleonastic. It amounts to saying that when a person makes a classification, he does so according to the knowledge he has. One cannot imagine how things could be otherwise.

150. There are actions that use means appropriate to ends and which logically link means with ends. There are other actions in which those traits are missing. The two sorts of conduct are very different according as they are considered under their objective or their subjective aspect. From the subjective point of view nearly all human actions belong to the logical class. In the eyes of the Greek mariners sacrifices to Poseidon and rowing with oars were equally logical means of navigation. To avoid verbosities which could only prove annoying, we had better give names to these types of conduct.[1] Suppose we apply the term *logical actions* to actions that logically conjoin means to ends not only from the standpoint of the subject performing them, but from the standpoint of other persons who have a more extensive knowledge—in other words, to actions that are logical both subjectively and objectively in the sense just explained. Other actions we shall call *non-logical* (by no means the same as "illogical"). This latter class we shall subdivide into a number of varieties.

150 [1] As we have already said (§§ 116 f.), it would perhaps be better to use designations that have no meanings in themselves, such as letters of the alphabet. On the other hand, such a system would impair the clarity of our argument. We must therefore resign ourselves to using terms of ordinary speech; but the reader must bear in mind that such words, or their etymologies, in no way serve to describe the things they stand for. Things have to be examined directly. Names are just labels to help us keep track of them (§ 119).

151. A synoptic picture of the classification will prove useful:

GENERA AND SPECIES	HAVE THE ACTIONS LOGICAL ENDS AND PURPOSES: *Objectively?*	*Subjectively?*
CLASS I: LOGICAL ACTIONS		
(The objective end and the subjective purpose are identical.)	Yes	Yes
CLASS II. NON-LOGICAL ACTIONS		
(The objective end differs from the subjective purpose.)		
Genus 1	No	No
Genus 2	No	Yes
Genus 3	Yes	No
Genus 4	Yes	Yes

SPECIES OF THE GENERA 3 AND 4

$3\alpha, 4\alpha$	The objective end would be accepted by the subject if he knew it.
$3\beta, 4\beta$	The objective end would be rejected by the subject if he knew it.

The ends and purposes here in question are immediate ends and purposes. We choose to disregard the indirect. The objective end is a real one, located within the field of observation and experience, and not an imaginary end, located outside that field. An imaginary end may, on the other hand, constitute a subjective purpose.

152. Logical actions are very numerous among civilized peoples. Actions connected with the arts and sciences belong to that class, at least for artists and scientists. For those who physically perform them in mere execution of orders from superiors, there may be among them non-logical actions of our II-4 type. The actions dealt with in political economy also belong in very great part in the class of logical actions. In the same class must be located, further, a certain number of actions connected with military, political, legal, and similar activities.

153. So at the very first glance induction leads to the discovery that non-logical actions play an important part in society. Let us therefore proceed with our examination of them.

154. First of all, in order to get better acquainted with these non-logical actions, suppose we look at a few examples. Many others will find their proper places in chapters to follow. Here are some illustrations of actions of Class II:

Genera 1 and 3, which have no subjective purpose, are of scant importance to the human race. Human beings have a very conspicuous tendency to paint a varnish of logic over their conduct. Nearly all human actions therefore work their way into genera 2 and 4. Many actions performed in deference to courtesy and custom might be put in genus 1. But very very often people give some reason or other to justify such conduct, and that transfers it to genus 2. Ignoring the indirect motive involved in the fact that a person violating common usages incurs criticism and dislike, we might find a certain number of actions to place in genera 1 and 3.

Says Hesiod:[1] "Do not make water at the mouth of a river emptying into the sea, nor into a spring. You must avoid that. Do not lighten your bowels there, for it is not good to do so." The precept not to befoul rivers at their mouths belongs to genus 1. No objective or subjective end or purpose is apparent in the avoidance of such pollution. The precept not to befoul drinking-water belongs to genus 3. It has an objective purpose that Hesiod may not have known, but which is familiar to moderns: to prevent contagion from certain diseases.

It is probable that not a few actions of genera 1 and 3 are common among savages and primitive peoples. But travellers are bent on learning at all costs the reasons for the conduct they observe. So in one way or another they finally obtain answers that transfer the conduct to genera 2 and 4.

155. Granting that animals do not reason, we can place nearly all their so-called instinctive acts in genus 3. Some may even go in 1. Genus 3 is the pure type of the non-logical action, and a study of it as it appears in animals will help to an understanding of non-logical conduct in human beings.

154 [1] *Opera et dies*, vv. 757-58.

Of the insects called Eumenes (pseudo-wasps) Blanchard writes that, like other Hymenoptera, they "suck the nectar of flowers when they are full grown [but that] their larvae feed only upon living prey; and since, like the larvae of wasps and bees, they are apodal and incapable of procuring food, they would perish at once if left to themselves. What happens, then, may be foreseen. The mother herself has to procure food for her young. That industrious little animal, who herself lives only on the honey of flowers, wages war upon the tribe of insects to assure a livelihood for her offspring. In order to stock its nest with victuals, this Hymenopteron nearly always attacks particular species of insects, and it knows how to find such species without any trouble, though to the scientist who hunts for them they seem very rare indeed. The female stings her victims with her dart and carries them to her nest. The insect so smitten does not die at once. It is left in a deep coma, which renders it incapable of moving or defending itself. The larvae are hatched in close proximity to the provisions that have been laboriously accumulated by the mother, and find within their reach a food adapted to their needs and in quantities sufficient for their whole life as larvae. Nothing is more amazing than this marvellous foresight; and it is altogether instinctive, it would seem. In laying her eggs every female prepares food for young whom she will never see; for by the time they are hatched she will long since have ceased to live." [1]

155 [1] *Histoire des insectes,* Vol. I, p. 71. But there is something else. Fabre made interesting observations of these insects and others of the kind. He succeeded in determining that the number of caterpillars prepared to feed the larva varies from five to ten, according as the insect is to be female or male. Since the egg is laid after the provisions have been stored, Fabre believes that the mother knows beforehand the sex to which the egg is to belong (*Souvenirs entomologiques,* Ser. 2, pp. 72-73). He reverts to the matter of the sex of the egg in his third series (pp. 384 f.). Fabre managed to discover how the larva of the Eumenis is fed: *Ibid.,* Ser. 2, pp. 78-79: "The egg is not laid on the food: it is hung from the ceiling of the dome by a filament rivalling the thread of a spider's web in fineness. . . . The larva has hatched and is already of some size. Like the egg, it hangs by the back from the ceiling of its home. . . . The worm is now at table! Head down, he feels about over the soft belly of one of the caterpillars. With a wisp of straw I touch the game gently, before it has been bitten. The caterpillars begin wriggling, and the larva beats a hasty re-

Other Hymenoptera, the Cerceres, attack Coleoptera. Here the action, subjectively non-logical, shows a marvellous objective logic. Suppose we let Fabre speak for himself. He observes that, in order to paralyze its prey, the Hymenopteron has first to find Coleoptera either with three thoracic ganglia very close together, contiguous in fact, or with the two rear ganglia joined. "That, really, is the prey they need. These Coleoptera, with motor centres situated so close together as to touch, forming a single mass and standing in intimate mutual connexions, can thus be paralyzed at a single thrust; or if several stings are needed, the ganglia that require treatment will at least lie together under the point of the stinger." Further along: "Out of the vast numbers of Coleoptera upon which the Cerceres might inflict their depredations, only two groups, the weevils and the Buprestes, fulfil the indispensable conditions. They live far from infested and noisome places, for which, it may be, the fastidious huntress has an unconquerable repugnance. Their numerous representatives vary in size, proportionate to the sizes of the various pirates, who are thus free to select their victims at pleasure. They, more than all others, are vulnerable at the one point where the stinger of the Hymenopteron can penetrate with success: for at that point the motor centres of the feet and wings are concentrated in such a way as to be readily accessible to the stinger. These three thoracic ganglia of the weevil lie very close together, the last two touching. In the Buprestes the second and third ganglia blend in a single bulky mass a short distance from the first. Now it is the weevils and the Buprestes precisely, to the absolute exclusion of all other prey, that we find hunted by the eight species of Cerceres that lay in stores of Coleoptera." [2]

treat." It crawls back into a sort of sheath: "The covering of the egg is its tunnel of refuge. It still keeps its cylindrical form, prolonged a little perhaps by the special labours of the new-born larva. At the first signs of peril from the pile of caterpillars, the larva draws into its sheath and climbs back to the ceiling where the wriggling mob cannot reach it." Later on, when the worm has grown stronger and the caterpillars weaker, the worm drops to the floor.

155 [2] *Ibid.*, Ser. 1, pp. 67-79. Another truly extraordinary example is supplied in Fabre's Ser. 4, pp. 253-54. The Callicurgus hunts a certain spider, the Epeiron. The Epeiron "has under his throat two exceedingly sharp needles with drops

156. For that matter, a certain number of actions in animals evince reasoning of a kind, or better, a sort of adaptation of means to ends as circumstances change. Says Fabre, whom we quote at such length because he has studied the subject better than anybody else:[1] "For instinct nothing is difficult, so long as the act does not extrude from the fixed cycle that is the animal's birthright. For instinct also nothing is easy if the act has to deviate from the rut habitually followed. The insect that amazes for its high perspicacity will an instant later, when confronted with the simplest situation foreign to its ordinary practice, astound for its stupidity. . . . Distinguishable in the psychic life of the insect are two wholly different domains. The one is instinct proper, the unconscious impulse that guides the animal in the marvellous achievements of its industry. . . . It is instinct, and nothing but instinct, that makes a mother build a nest for a family she will never know, which counsels a supply of food for an unknowable posterity, which steers the dart toward the nerve-centre of the prey . . . with a view to keeping provisions fresh. . . . But for all of its unbending, unconscious cleverness, pure instinct, all by itself, would leave the insect disarmed in its perpetual battle with circumstance. . . . A guide is necessary to devise, accept, refuse, select, prefer this, ignore that—in a word, take advantage of the usables occasion offers. Such a guide the in-

of poison on the points. The Callicurgus is lost if the spider pricks him, and meantime his operation in anaesthesia requires the unfailing precision of the surgeon's knife. What is he to do in a perilous situation that would ruin the composure of the coolest human operator? The patient has first to be disarmed and then dealt with! And, in fact, there is the stinger of the Callicurgus darting forward from the back and driving into the mouth of the Epeiron with minutest precautions and untiring persistence! Almost at once the poisonous hooks fold up lifeless and the dread prey is powerless to harm. The belly of the Hymenopteron then stretches its bow and drives the stinger home just behind the fourth pair of legs, on the median line, almost at the juncture of belly and cephalo-thorax. . . . The nerve ganglia controlling the movements of the legs are located a little higher than the point pricked, but the backward-forward thrust enables the weapon to reach them. This second stroke paralyzes the eight legs all at once. . . . First, to safeguard the operator, a prick in the mouth, a point terrifyingly armed and to be dreaded more than all else! Then, to safeguard the offspring, a second thrust into the nervous centres of the thorax, to end all movement!"

156 [1] *Ibid.*, Ser. 1, pp. 165-66; Ser. 4, pp. 65-67.

sect certainly has and even to a very conspicuous degree. It is the second domain of his psychic life. In it he is conscious and teachable by experience. Not daring to call that rudimentary aptitude intelligence, a title too exalted for it, I will call it *discernment.*"

157. Qualitatively (§ 144[1]), phenomena are virtually the same in human beings; but quantitatively, the field of logical behaviour, exceedingly limited in the case of animals, becomes very far-reaching in mankind. All the same, many many human actions, even today among the most civilized peoples, are performed instinctively, mechanically, in pursuance of habit; and that is more generally observable still in the past and among less civilized peoples. There are cases in which it is apparent that the effectiveness of certain rites is believed in instinctively, and not as a logical consequence of the religion that practises them (§ 952). Says Fabre:[1]

"The various instinctive acts of insects are therefore inevitably linked together. Because a certain thing has just been done, another must unavoidably be done to complete it or prepare the way for its completion [That is the case with many human actions also.], and the two acts are so strictly correlated that the performance of the first entails the performance of the second, even when by some fortuitous circumstance the second may have become not only unseasonable, but at times even contrary to the animal's interests."

But even in the animal one detects a seed of the logic that is to come to such luxuriant flower in the human being. After describing how he tricked certain insects that obstinately persisted in useless acts, Fabre adds: "But the yellow-winged Sphex does not always let himself be fooled by the game of pulling his cricket away. There are chosen clans in his tribe, families of brainy wit, that, after a few disappointments, perceive the wiles of the trickster and find ways to checkmate them. But such revolutionaries, candidates for progress, are the small minority. The rest, stubborn conservators of the good old-fashioned ways, are the *hoi polloi,* the majority."

This remark should be remembered, for the conflict between a tendency to combinations, which is responsible for innovations, and

157 [1] *Ibid.,* Ser. 1, pp. 174-77.

a tendency to permanence in groups of sensations, which promotes stability, may put us in the way of explaining many things about human societies (Chapter XII).

158. The formation of human language is no whit less marvellous than the instinctive conduct of insects. It would be absurd to claim that the theory of grammar preceded the practice of speech. It certainly followed, and human beings have created most subtle grammatical structures without any knowledge of it.

Take the Greek language as an example. If one chose to go farther back to some Indo-European language from which Greek would be derived, our contentions would hold *a fortiori,* because the chance of any grammatical abstraction would be less and less probable. We cannot imagine that the Greeks one day got together and decided what their system of conjugation was to be. Usage alone made such a masterpiece of the Greek verb. In Attic Greek there is the augment, which is the sign of the past in historical tenses; and, for a very subtle nuance, besides the syllabic augment there is the temporal (quantitative) augment, which consists in a lengthening of the initial vowel. The conception of the aorist, and its functions in syntax, are inventions that would do credit to the most expert logician. The large number of verbal forms and the exactness of their functions in syntax constitute a marvellous whole.[1]

158 [1] Albert Dauzat well says, *La langue française d'aujourd'hui,* pp. 238-39: "The whole field is today under the dominion of a principle that holds the allegiance of the vast majority of philologists, namely, that linguistic phenomena are unconscious. [Another way of expressing what we mean by "non-logical actions."] Almost universally accepted in the domain of phonology—transformations in sounds have long since ceased to be ascribed to individual caprice—the principle is nevertheless meeting the same opposition in the field of semantics that [phonetic] laws were generally arousing not so long ago. M. Bréal [*Essai de sémantique,* p. 311; Cust, pp. 279-81] assigns a very definite rôle to individual volition in the evolution of word-meanings. . . . This [Bréal's] theory, which would have found practically no adversaries fifty years ago, is today rejected with virtual unanimity by philologists, who readily subscribe to the axiom stated by V. Henry [*Antinomies linguistiques,* p. 78] that 'any explanation of a linguistic phenomenon which to any extent whatever assumes exercise of conscious activity on the part of a speaking subject must be *a priori* discarded and held null and void.' " But that is an exaggeration. Scientific terminology is nearly always a product of conscious activity, and some few terms in ordinary language may have similar origins. On the other hand,

159. In Rome, the general invested with the *imperium* had to take the auspices on the Capitol before he could leave the city. He could do that only in Rome. One cannot imagine that that provision had originally the political purpose that it eventually acquired.[1] "As long as the extension of existing *imperia* depended exclusively upon the will of the *comitia,* no new ones carrying full military authority could be established except by taking the auspices on the Capitol—consequently by performing an act that lay within urban jurisdiction. . . . To organize another [taking of auspices] in defiance of the constitution would have implied transgressing bounds held in awe even by the *comitia* of the sovereign People. No constitutional barrier to extraordinary military usurpations held its ground anywhere near as long as this guarantee that had been found in the regulation as to a general's auspices. In the end that regulation also lapsed, or rather was circumvented. In later times some piece of land or other situated outside of Rome was 'annexed' by a legal fiction to the city and taken as though located within the *pomerium,* and the required *auspicium* was celebrated there."

Later on Sulla not only abolished the guarantee of the auspices, but even rendered it inapplicable by an ordinance whereby the magistrate was obligated not to assume command till after the expiration of his year of service [as a magistrate]—at a time, that is, when

Bréal's objection does not disturb the fact that a large number of phenomena are conscious only in appearances, the activity of the subject resolving itself into non-logical behaviour of our varieties 2 and especially 4. Darmesteter, *La vie des mots,* pp. 86, 133: "In all such changes [in the meanings of words] one finds, at bottom, two concurrent intellectual elements, the one principal, the other secondary. In the long run, as the result of an unconscious detour, the mind loses sight of the first and thinks only of the second. . . . So the mind passes from one idea to quite another under cover of one same physiological fact—the word. Now this unconscious development, which shifts the stress from the principal detail to the secondary, is the law, no less, of transformations in the mental world. . . . So in spite of the family relationships that developments in a language may establish between words, words most often lead lives of their own and follow their respective destinies all by themselves. When human beings speak, they are by no means 'doing etymology.' " Nothing could be truer; and that is why people often go astray in trying to infer the meaning of a word from its etymology or, what is worse, trying to reconstruct the unknown history of a remote past on an etymological basis.

159 [1] Mommsen, *Römisches Staatsrecht,* Vol. I, p. 100.

[being in his proconsular province] he could no longer take the urban auspices. Now Sulla, a conservative, obviously had no intention of providing for the overthrow of his constitution in that way, any more than the older Romans, in establishing the requirement of auspices taken in the *Urbs,* were anticipating attacks upon the constitution of the Republic. In reality, in their case, we have a non-logical action of our 4α type; and in the case of Sulla a non-logical action of our 4β type.

In the sphere of political economy, certain measures (for example, wage-cutting) of business men (entrepreneurs) working under conditions of free competition are to some extent non-logical actions of our 4β type, that is, the objective end does not coincide with the subjective purpose. On the other hand, if they enjoy a monopoly, the same measures (wage-cutting) become logical actions.[2]

160. Another very important difference between human conduct and the conduct of animals lies in the fact that we do not observe human conduct wholly from the outside as we do in the case of animals. Frequently we know the actions of human beings through the judgments that people pass upon them, through the impressions they make, and in the light of the motives that people are pleased to imagine for them and assign as their causes. For that reason, actions that would otherwise belong to genera 1 and 3 make their way into 2 and 4.

Operations in magic when unattended by other actions belong to genus 2. The sacrifices of the Greeks and Romans have to be classed in the same genus—at least after those peoples lost faith in the reality of their gods. Hesiod, *Opera et dies,* vv. 735-39, warns against crossing a river without first washing one's hands in it and uttering a prayer. That would be an action of genus 1. But he adds that the

159 [2] Pareto, *Cours,* § 719: ". . . while the business man aims at reducing costs of production, involuntarily he achieves the further effect of reducing selling prices [That is not the case with monopolies.], competition always restoring parity between the two prices." And *cf. Ibid.,* §§ 151, 718. Pareto, *Manuale,* Chap. V, § 11. *Ibid.,* Chap. V, § 74: "So competing enterprises get to a point where they had no intention of going. Each of them has been looking strictly to profits and thinking of the consumer only in so far as he can be exploited; but owing to the successive adjustments and readjustments required by competition their combined exertions turn out to the advantage of the consumer."

gods punish anyone who crosses a river without so washing his hands. That makes it an action of genus 2.

This rationalizing procedure is habitual and very wide-spread. Hesiod says also, vv. 780-82, that grain should not be sown on the thirteenth of a month, but that that day is otherwise very auspicious for planting, and he gives many other precepts of the kind. They all belong to genus 2. In Rome a soothsayer who had observed signs in the heavens was authorized to adjourn the *comitia* to some other day.[1] Towards the end of the Republic, when all faith in augural science had been lost, that was a logical action, a means of attaining a desired end. But when people still believed in augury, it was an action of genus 4. For the soothsayers who, with the help of the gods, were so enabled to forestall some decision that they considered harmful to the Roman People, it belonged to our species 4α, as is apparent if one consider that in general such actions correspond, very roughly to be sure, to the provisions used in our time for avoiding ill-considered decisions by legislative bodies: requirements of two or three consecutive readings, of approvals by two houses, and so on.

Most acts of public policy based on tradition or on presumed missions of peoples or individuals belong to genus 4. William I, King of Prussia, and Napoleon III, Emperor of the French, both considered themselves "men of destiny." But William I thought his mission lay in promoting the welfare and greatness of his country, Louis Napoleon believed himself destined to achieve the happiness of mankind. William's policies were of the 4α type; Napoleon's, of the 4β.

Human beings as a rule determine their conduct with reference to certain general rules (morality, custom, law), which give rise in greater or lesser numbers to actions of our 4α and even 4β varieties.

161. Logical actions are at least in large part results of processes

160 [1] Cicero, *De legibus*, II, 12, 31: "If we are thinking of prerogative, what prerogative more extreme than to be able to adjourn assemblies and councils called by the supreme authorities, the highest magistrates, or to annul their enactments if they have already been held? And what more important than that business in course should be postponed if a single augur cries, *Alio die!*?"

of reasoning. Non-logical actions originate chiefly in definite psychic states, sentiments, subconscious feelings, and the like. It is the province of psychology to investigate such psychic states. Here we start with them as data of fact, without going beyond that.

162. Thinking of animals, let us assume that the conduct *B* (I) in Figure 2, which is all we are in a position to observe, is connected with a hypothetical psychic state *A* (I). In human beings that psychic state is revealed not through the conduct *B* (II) alone, but also through expressions of sentiments, *C*, which often develop moral, religious, and other similar theories. The very marked tendency in human beings to transform non-logical into logical conduct leads them to imagine that *B* is an effect of the cause *C*. So a direct relationship, *CB*, is assumed, instead of the indirect relationship arising through the two relations *AB*, *AC*. Sometimes the relation *CB* in fact obtains, but not as often as people think. The same sentiment that restrains people from performing an act *B* (relation *AB*) prompts them to devise a theory *C* (relation *AC*). A man, for example, has a horror of murder, *B*, and he will not commit murder; but he will say that the gods punish murderers, and that constitutes a theory, *C*.

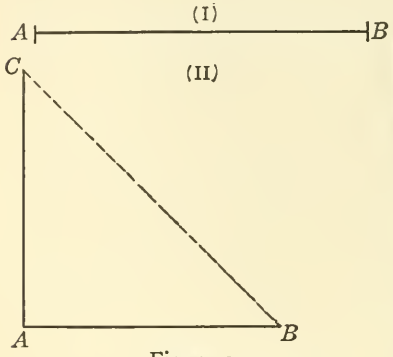

Figure 2

163. We are thinking not only of qualitative relations (§ 144[1]), but of quantitative also. Let us assume, for a moment, that a given force impelling a man to perform an act *B* has an index equivalent to 10 and that the man either performs or refrains from performing the act *B* according as the forces tending to restrain him have an index greater or smaller than 10. We shall then get the following alternatives:

Case 1. The restraining force of the association *AB* has an index greater than 10. In that situation it is strong enough to keep the

man from performing the act. The association *CB*, if it exists, is superfluous.

Case 2. The restraining force of the association *CB*, if it exists, has an index larger than 10. In such a case, it is strong enough to prevent the act *B*, even if the force *AB* is equivalent to zero.

Case 3. The force resulting from the association *AB* has, let us say, an index equal to 4; and the force resulting from the association *CB* an index equal to 7. The sum of the indices is 11. The act, therefore, will not be performed. The force resulting from the association *AB* has an index equal to 2, the other retaining its index 7. The sum is 9; the act will be performed.

Suppose the association *AB* represents a person's aversion to performing the act *B*. *AC* represents the theory that the gods punish persons who commit the act *B*. Some people will abstain from doing *B* out of mere aversion to it (Case 1). Others refrain from it only because they fear the punishment of the gods (Case 2). Others still will forbear for both reasons (Case 3).

164. The following propositions are therefore false, because too absolute: "A natural disposition to do good is sufficient to restrain human beings from doing wrong." "Threat of eternal punishment is sufficient to restrain men from doing wrong." "Morality is independent of religion." "Morality is necessarily dependent on religion."

Suppose we say that *C* is a penalty threatened by law. The same sentiment that prompts people to establish the sanction restrains them from committing *B*. Some refrain from *B* because of their aversion to it; others in fear of the penalty *C;* still others for both reasons.

165. The relationships between *A, B, C* that we have just considered are fundamental, but they are far from being the only ones. First of all, the existence of the theory *C* reacts upon the psychic state *A* and in many many cases tends to re-enforce it. The theory consequently influences *B*, following the line *CAB*. On the other hand, the check *B*, which keeps people from doing certain things,

reacts upon the psychic state *A* and consequently upon the theory *C*, following the line *BAC*. Then again the influence of *C* upon *B* influences *A* and so is carried back upon *C*. Suppose, for instance, a penalty *C* is considered too severe for a crime *B*. The infliction of such a penalty (*CB*) modifies the psychic state *A*, and as a consequence of the change, the penalty *C* is superseded by another more mild.

Change in a psychic state is first disclosed by an increase in certain crimes *B*. The increase in crime modifies the psychic state *A*, and the modification is translated into terms of a change in *C*.

Up to a certain point, the rites of worship in a religion may be comparable to the conduct *B*, its theology to the theory *C*. The two things both emanate from a certain psychic state *A*.

166. Let us consider certain conduct *D* (Figure 3), depending upon that psychic state, *A*. The rites of worship, *B*, do not influence *D* directly, but influence *A* and consequently *D*. In the same way they influence *C* and, *vice versa*, *C* influences *B*. There can in addition be a direct influence *CD*. The influence of the theology *C* upon *A* is usually rather weak, and consequently its influence upon *D* is also feeble, since the influence *CD* is itself usually slight. In general, then, we go very far astray in assuming that a theology, *C*, is the motive of the conduct, *D*. The proposition so often met with, "This or that people acts as it does because of a certain belief," is rarely true; in fact, it is almost always erroneous. The inverse proposition, "People believe as they do because of this or that conduct," as a rule contains a larger amount of truth; but it is too absolute, and has its modicum of error. Beliefs and conduct are not, to be sure, independent; but their correlation lies in their being, as it were, two branches of one same tree (§ 267).[1]

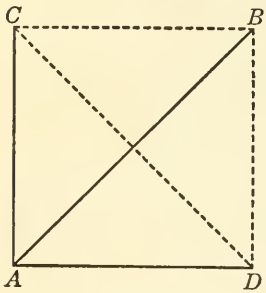

Figure 3

167. Before the invasion of Italy by the gods of Greece, the ancient Roman religion did not have a theology, *C:* it was no more than a

166 [1] This theme will be amply developed in Chapter XI.

cult, *B*. But the cult *B*, reacting upon *A*, exerted a powerful influence on the conduct, *D*, of the Roman people. Nor is that the whole story. The direct relation, *BD*, when it existed, looks to us moderns manifestly absurd. But the relation *BAD* may often have been very reasonable and very beneficial to the Roman people. Any direct influence of a theology, *C*, upon *D* is in general weaker even than its influence upon *A*. It is therefore a serious mistake to measure the social value of a religion strictly by the logical or rational value of its theology (§ 14). Certainly, if the theology becomes absurd to the point of seriously affecting *A*, it will for the same reason seriously affect *D*. But that rarely occurs. Only when the psychic state *A* has changed do people notice certain absurdities that previously had escaped them altogether.

These considerations apply to theories of all kinds.[1] For example, *C* is the theory of free trade; *D*, the concrete adoption of free trade by a country; *A*, a psychic state that is in great part the product of individual interests, economic, political, and social, and of the circumstances under which people live. Direct relations between *C* and *D* are generally very tenuous. To work upon *C* in order to modify *D* leads to insignificant results. But any modification in *A* may react upon *C* and upon *D*. *D* and *C* will be seen to change simultaneously, and a superficial observer may think that *D* has changed because *C* has changed, whereas closer examination will reveal that *D* and *C* are not directly correlated, but depend both upon a common cause, *A*.

168. Theoretical discussions, *C*, are not, therefore, very serviceable directly for modifying *D;* indirectly they may be effective for modifying *A*. But to attain that objective, appeal must be made to sentiments rather than to logic and the results of experience. The situation may be stated, inexactly to be sure, because too absolutely, but nevertheless strikingly, by saying that in order to influence people thought has to be transformed into sentiment.

In the case of England, the continuous practice of free trade *B* (Figure 3) over a long period of years has in our day reacted upon

167 [1] Pareto, *Manuel*, pp. 134-35, 520 (§ 62).

the psychic state *A* (interests, etc.) and intensified it, so increasing obstacles in the way of introducing protection. The theory of free trade, *C,* is in no way responsible for that. However, other facts, such as growing needs on the part of the Exchequer, are nowadays tending to modify *A* in their turn; and such modifications may serve to change *B* and so bring protection about. Meantime modifications in *C* will be observable and new theories favourable to protection will come into vogue.

A theory, *C,* has logical consequences. A certain number of them are to be found present in *B.* Others are absent. That would not be the case if *B* were the direct consequence of *C,* for if it were, all the logical implications of *C* would appear in *B* without exception. But *C* and *B* are simply consequences of a certain psychic state, *A.* There is nothing therefore to require perfect logical correspondence between them. We shall always be on the wrong road, accordingly, when we imagine that we can infer *B* from *C* by establishing that correspondence logically. We are obliged, rather, to start with *C* and determine *A,* and then find a way to infer *B* from *A.* In doing that very serious difficulties are encountered; and unfortunately they have to be overcome before we can hope to attain scientific knowledge of social phenomena.

169. We have no direct knowledge of *A.* What we know is certain manifestations of *A,* such as *C* and *B;* and we have to get back from them to *A.* The difficulties are increased by the fact that though *B* is susceptible of exact observation, *C* is almost always stated in obscure terms altogether devoid of exactness.

170. The theory we have been thinking of is a popular theory, or at least, a theory held by large numbers of people. The case where *C* is a theory framed by scientists is in some respects similar, yet in other respects different.

Unless the theory *C* is coldly scientific, *C* is affected by the psychic state of the scientists who frame it. If they belong to the group that has been performing the acts, *B,* their psychic state has—save in the very rare case of an individual not given to following the beaten path—something in common with the psychic state of the members

of the group; and consequently *A* still influences *C*. That is all the case can have in common with the preceding case. If scientists are dealing with the conduct of people belonging to groups entirely different from their own—say with some foreign country, or some very different civilization, or with historical matters going back to a remote past—their psychic state, *A'* (Figure 4), is not identical with *A*. It may differ now more, now less, or even in some particular case be altogether different. Now it is the psychic state that influences *C*. So *A* may affect *C* very little, if at all. If we ignore all influences from *A* or *A'*, we get interpretations of the facts, *B*, that are purely theoretical. If *C* is a strict and exact principle and is applied to *B* with faultless logic and without ambiguities of any kind, we get scientific interpretations.

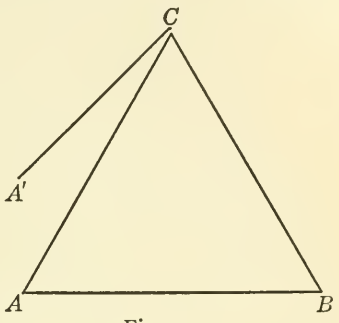

Figure 4

171. But the class of theories that we are here examining includes others. *C* may be an uncertain principle, lacking in exactness, and sometimes even a principle of the experimental type. Furthermore, it may be applied to *B* with illogical reasonings, arguments by analogy, appeals to sentiment, nebulous irrelevancies. In such cases we get theories of little or no logico-experimental value, though they may have a great social value (§ 14). Such theories are very numerous, and we shall find them occupying much of our attention.[1]

172. Let us go back to the situation in Figure 3, and to get better acquainted with that subject, which is far from being an easy one to master, let us put abstractions aside and examine a concrete case. In that way we shall be led to follow certain inductions which arise spontaneously from the exposition of facts. Then we can go back to the general case and continue the study of which we have just sketched the initial outlines.

171 [1] Here we come by induction to many points beyond which we choose not to go for the present. We shall resume our advance from them in chapters to follow, and there devote ourselves specially to many things that are merely signboarded here.

There is a very important psychic state that establishes and maintains certain relationships between sensations, or facts, by means of other sensations, *P, Q, R*. . . . Such sensations may be successive, and that, probably, is one of the ways in which instinct manifests itself in animals. On the other hand they may be simultaneous, or at least be considered such; and their union constitutes one of the chief forces in the social equilibrium.

Let us not give a name to that psychic state, in order, if possible, to avoid any temptation to derive the significance of the thing from the name we give it (§ 119). Let us continue to designate it simply by the letter *A*, as we have done for a psychic state in general. We shall have to think of the state not only as static, but also as dynamic. It is very important to know how the fundamental element in the institutions of a people changes. *Case 1*. It may change but reluctantly, slowly, showing a marked tendency to keep itself the same. *Case 2*. It may change readily, and to very considerable extents, but in different ways, as for instance: *Case 2α*. The form may change as readily as the substance—for a new substance, new forms. The sensations *P, Q, R* . . . may be easily disjoined, whether because the force *X* that unites them is weak, or because, though strong, it succumbs to a still stronger counter-force. *Case 2β*. Substance changes more readily than forms—for a new substance, the old forms! The sensations *P, Q, R* . . . are disjoined with difficulty, whether because the force *X* that unites them is the stronger, or because, though weak, it does not meet any considerable counter-force.

The sensations *P, Q, R* . . . may originate in certain things and later on appear to the individual as abstractions of those things, such as principles, maxims, precepts, and the like. They constitute an aggregate, a group. The permanence of that aggregate, that group, will be the subject of long and important investigations on our part.[1]

173. A superficial observer might confuse the Case *2β* with Case

172 [1] It will develop in Chapter VI, when induction has carried us some distance ahead, and we are in a position to replace it with deduction. For the present it would be premature to deal with the problem as it deserves.

1 (§ 172). But in reality they differ radically. Peoples called conservative may be such now only with respect to forms (Case 2β), now only with respect to substance (Case 1). Peoples called formalist may now preserve both forms and substance (Case 1), now only forms (Case 2β). Peoples commonly said to have "fossilized in a certain state" correspond to Case 1.

174. When the unifying force, *X*, is quite considerable, and the force *Y*—the trend toward innovation—is very weak or non-existent, we get the phenomena of instinct in animals, and something like the situation in Sparta, a state crystallized in its institutions. When *X* is strong, but *Y* equally strong, and innovations are wrought upon substance with due regard to forms, we get a situation like that in ancient Rome—the effort is to change institutions, but disturbing the associations *P, Q, R* . . . as little as possible. That can be done by allowing the relations *P, Q, R* . . . to subsist in form. From that point of view, the Roman people may be called formalist at a certain period in its history, and the same may hold for the English. The aversion of those two peoples to disturbing the formal relations *P, Q, R* . . . may even tempt one to call them conservative. But if we fix our attention on substance, we see that they do not preserve but transform it. Among the ancient Athenians and the modern French, *X* is relatively feeble. It is difficult to assert that *Y* was more vigorous among the Athenians than among the Romans, more vigorous among the French than among the English from the seventeenth to the nineteenth century. If the effects in question manifest themselves in different ways, the difference lies in the strength of *X* rather than in the strength of *Y*.

Let us assume that in the case of two peoples *Y* is identical in both and *X* different in both. To bring about innovations, the people among whom *X* is feeble wipes out the relations *P, Q, R* . . . and replaces them with other relations. The people among whom *X* is strong allows those relations to subsist as far as possible and modifies the significance of *P, Q, R*. . . . Furthermore, there will be fewer "relics from the past" in the first people than in the second.

Since *X* is feeble, there is nothing to hinder abolition of the relations *P, Q, R* . . . now considered useless; but when *X* is strong, those relations will be preserved even if they are considered useless.

These inductions are obtainable by observing manifestations of the psychic state *A*. As regards Rome we have facts in abundance—to begin with, religion. There is now no doubt: (1) that the earliest Romans had no mythology, or at best an exceedingly meagre one; (2) that the classical mythology of the Romans was nothing but a Greek form given to the Roman gods, if not an actual naturalization of foreign deities. Ancient Roman religion consisted essentially of an association of certain religious practices with the conduct of life—it was the perfect type of the *P, Q, R* . . . associations. Cicero could well say [1] that "the whole religion of the Roman people comes down to cult and auspices (§ 361), with a supplement of prophecies originating in portents and prodigies as interpreted by the Sibyl and the haruspices."

175. Even in our day numerous and most variegated types of the associations *P, Q, R* . . . are observable. In his *Au pays des Veddas,* pp. 159-62, Deschamps says that in Ceylon "the astrologer plays a part in every act of the native's life. Nothing could be undertaken without his counsel; and . . . I have often seen myself refused the simplest favours because the astrologer had not been consulted as to the day and hour auspicious for granting them." When a piece of ground is to be cleared or brought under cultivation, the astrologer is first consulted, receiving offerings of betel leaves and betel nuts.[1] "If the forecast is favourable, gifts of the leaves and nuts are repeated on a specified day, and an 'auspicious hour' (*nàḳata*) is chosen for cutting the first trees and bushes. On the appointed day, the cultivators of the plot selected partake of a repast of cakes, and rice and milk, prepared for the occasion. Then they go forth, their faces

174 [1] *De natura deorum,* III, 2, 5.

175 [1] Bell, *Superstitious Ceremonies Connected with the Cultivation of Alvi or Hill Paddy,* quoted by Deschamps, *loc. cit.* [Paddy is rice. I fail to find any record of just this article by H. C. P. Bell, who was secretary of the Royal Society of Ceylon, and wrote extensively on the rites of the rice cultivators in that colony during the '80's.—A. L.]

turned in the direction designated as propitious by the astrologer. If a lizard chirps at the moment of their departure or if they encounter along the way something of evil omen—a person carrying dead wood or dangerous weapons, a 'rat-snake' crossing the path, a woodpecker—they give up the idea of clearing that particular piece of land, or, more likely, the idea of visiting it that day, picking another *nàḳata* and starting over again. On the other hand, if good omens—a milch cow, a woman nursing a child—are encountered, they proceed cheerily and in all confidence. Once on the ground, an auspicious moment is awaited, then the trees and brush are set on fire. Two or three weeks are allowed for the ground to cool, then another *nàḳata* is set for the final clearing of the land. . . . On a *nàḳata* designated by the same astrologer, a man sows a first handful of rice as a prelude." Birds and also rain may play havoc with the seeding. "To avert such mishaps a *ḳéma* or magic brew called *navanilla* (nine-herbs?) is made ready. . . . If the *ḳéma* proves ineffectual, a special kind of oil is distilled for another charm. . . . At weeding-time a *nàḳata* is sought of the same fortune-teller. When the rice-blossoms have faded the ceremony of sprinkling with five kinds of milk takes place." They go on in the same way for each of the successive operations till the rice is finally harvested and barned.[2]

176. Similar practices are observable to greater or lesser extents in the primitive periods of all peoples.[1] Differences are quantitative not

175 [2] In Greece and Rome also conduct was largely governed by oracles, presages, and the like. In course of time many such practices became purely formal. Cicero, *De divinatione,* I, 16, 28: "In olden times hardly any business of importance, even of a private nature, was transacted without consulting omens, as witness the 'nuptial auspices' even of our day, which have lost their old substance and preserve just the name (*re omissa nomen tantum tenent*). Nowadays auspices on important occasions are obtained, though somewhat less generally than was once the case, by inspections of entrails. In the old days they were commonly sought of birds."

176 [1] They still endure among half-civilized peoples, such as the Chinese, and they have not disappeared even in our western countries. Matignon, *Superstition, crime et misère en Chine,* pp. 4-8, 18-19: "Superstition, as I am about to describe it, has nothing to do with religion." Going on, Matignon explains the mysterious entity that the Chinese call *fong-choué,* literally, "wind-and-water": "One might in a general way regard it as a sort of topographical superstition. For the Chinese, any given point in the Middle Empire is a centre of forces, of spiritual influences, as to the nature of which they have very vague and ill-defined ideas, and which no one

qualitative. Preller [2] observes that in Rome parallel with the world of the gods was a family of spirits and genii: "Everything that happened in nature, everything that was done by human beings from birth to death, all the vicissitudes of human life and activity, all mutual relationships between citizens, all enterprises . . . were under the jurisdiction of these little gods. Indeed they owe their existence to nothing but those thousands of social relationships with which they are to be identified." [3] Originally they were mere associations of ideas, such as we find in fetishism. They constituted groups, and the groups were called divinities or something else of

understands, but which are all the more respected and feared on that account. [Matignon then tries to explain the facts by the beliefs. He does not succeed, because the facts are not consequences of the beliefs (logical actions), but the beliefs consequences of the facts (non-logical actions)]. The *fong-choué,* accordingly, seems to be something vague, mysterious, obscure, difficult, not to say impossible, of interpretation [As was the case with divination in Greece and Rome]. And nevertheless, in Chinese eyes, that body of fiction becomes science. [Is, in other words, a logical veneer sprinkled lavishly over their non-logical conduct. As regards funerals:] the astrologer must have fixed on a propitious day and especially by long and sagacious investigation, have gone into all aspects of the engrossing problem of the *fong-choué.* . . . In building a house, the Chinaman must not only consider the *fong-choué* of his neighbours, but also of his own house. A millstone, a well, the junction of two walls or two streets, must not be on a line with the main entrance. . . . That is not all. The *fong-choué* may be satisfied with the site and alignment of a building; but how about the use to which it is to be put? *X* builds a house for a rice-shop. But it develops that the *fong-choué* was inclined to favour a tea-shop. There is no further doubt. *X* and his rice business will soon be in the hands of the receiver. . . . The *fong-choué* superstition is exceedingly tenacious [Merely because it is an expression of the psychic state *A* of the Chinese, and nothing else]. It is the one that holds out longest against Christianity. And then again, what Chinaman, even though considered a good Christian, has altogether abandoned his *fong-choué?"* The situation is a general one. See §§ 1002 f.

176 [2] *Römische Mythologie,* p. 66.

176 [3] Marquardt, *Römische Staatsverwaltung: Sacralwesen,* pp. 12-19, gives a list of these gods. It must be very incomplete, for we may reasonably assume that large numbers of names have failed to come down to us. For some of the gods in question see our § 1339. Just a sample here, pp. 12-13: "Potina and Educa, who teach the child to eat and drink; Cuba, who protects the child while it is being carried from cradle to bed; Ossipago, 'who hardens and strengthens the bones of little children'; Carna, who strengthens the muscles; Levana, 'who lifts the child from the floor'; Statanus, Statilinus, and the goddess Statina, who teach the child to stand upright; Abeona and Adeona, who hold him up when he first tries to walk; Farimus and Fabulinus, who help him to talk." Marquardt goes on to list the divinities protecting adolescence, matrimony, and other various circumstances of life, and he adds, p. 15: "The business of the gods just listed was to protect persons;

the sort. Pliny soundly remarks that the god population was larger than the population of men.[4] When the tendency to give a coating of logic to non-logical conduct developed, people tried to explain why certain acts were associated with certain other acts. It was then that the rites of the cult were referred to great numbers of gods, or taken as manifestations of a worship of natural forces or abstractions. In reality we have the same situation here as in § 175. The psychic state of the Romans *A* (Figure 2) gave rise, through certain associations of ideas and acts, to the rites *B*. Later on, or even simultaneously in some instances, the same psychic state expressed itself through the worship *C* of abstractions, natural forces, attributes of certain divinities, and so on. Then, from the simultaneous existence of *B* and *C* came the inference, in most cases mistaken, that *B* was a consequence of *C*.

but there was a whole series of other gods who watched over the manifold activities of men and the scenes of such activities." Marquardt is mistaken in asserting, p. 18, that "originally at least, as Ambrosch has shown [*Ueber die Religionsbücher der Römer, rem.* 121], the thousands of names registered in the *indigitamenta* [ritual catalogues and calendars] were mere designations for the various functions (*potestates*) of relatively few divinities." That is the old abstraction idea. The proofs adduced for it are inadequate. They are stated by Marquardt as follows, pp. 18-19: "1. *Indigitare* meant to offer a prayer to one or more divinities, not in general terms but with specific reference to the divine capacities of which help was asked. The god was addressed several times, each time one attribute or another being added to his name." The various attributes mentioned corresponded at times to a number of gods who had been fused into a single personality. At other times they may have been different aspects of the same god. But that does not prove that Potina, Educa, Cuba, and so on, were abstract capacities of one same divine person. "2. In the second place, pontifical law forbade offering one victim to two gods at the same time." M. Brissaud, Marquardt's French translator, himself shows that that argument is baseless, *Le culte chez les Romains,* Vol. I, p. 24: "There has been no doubt either that some of the names listed were surnames of well-known gods." The fact that some gods had surnames does not prove that all the names catalogued in the *indigitamenta* were surnames, and much less, as Marquardt suggests in a note, p. 18, that they "represented the various attributes of divine Providence." Otherwise one would have to conclude that the various surnames of the Roman Emperors represented various attributes of a single personality.

176 [4] *Historia naturalis,* II, 5, 3 (7) (Bostock-Riley, Vol. I, p. 21): "Wherefore the population of celestials can be seen to be greater than the population of mortals, since individuals make gods for themselves, each one his own (*totidem*), adopting Junos and genii; and peoples [abroad] take certain animals as gods, and even obscene things and things that it is not the part of decency to mention, swearing by smelly onions, garlics, and the like."

177. The view that acts of cult are consequences of a worship of abstractions, whether considered as "natural forces" or otherwise, is the least acceptable of all and must be absolutely rejected (§§ 158, 996).[1] Proofs without end go to show that human beings in general proceed from the concrete to the abstract, and not from the abstract to the concrete. The capacity for abstraction develops with civilization; it is very rudimentary among primitive peoples. Theories that assume it as fully developed in the early stages of human society fall under grave suspicion of error. The ancient Romans, a people still uncivilized, could not have had a very highly developed capacity for abstraction, as would have been necessary if they were to perceive in every concrete fact, sometimes an altogether insignificant fact, a manifestation of some natural power.

Had such a capacity for abstraction existed, it would have left some trace in language. In the beginning, probably, the Greeks did not possess it in any higher degree than the Romans. But they soon acquired it and brought it to remarkable development; and abstraction has left a very definite imprint on their language. Using the article, they are able to turn an adjective, a participle, a whole sentence, into a substantive. The Latins had no article. They could not have availed themselves of that device. But they would certainly have found some other had they felt the need of doing so. On the contrary, it is well known that the capacity for using adjectives substantively is more limited in Latin than in Greek or even in French.[2]

177 [1] We cannot accept what Marquardt says, *Op. cit.*, pp. 6-7: "The gods of the Romans were mere abstractions. In them they worshipped those forces of nature to which the human being feels himself at all times subject, but which he can manage to control by scrupulous observance of the altogether external prescriptions laid down by the state for honouring the gods." The terms have to be inverted. To assure success in their undertakings the Romans meticulously observed certain rules which, spontaneous at first, eventually came to be used by the state. When, in course of time, people wondered how the rules arose, they imagined they saw forces of nature worshipped in them. Marquardt himself, for that matter, stresses the preponderant importance of the material acts and the scant importance of the abstractions, p. 7: "Religious practice required material paraphernalia of the simplest sort; but the rites themselves bristled with difficulties and complications. The slightest irregularity in a ceremony deprived it of all effectiveness."

177 [2] Antoine, *Syntaxe de la langue latine*, p. 125: "The capacity for using adjectives substantively is much more restricted in Latin than in Greek and even than

Probably there is some exaggeration in what St. Augustine says as to the multitude of Roman "gods"; but making all due allowances for overstatement, there are still plenty left who seem to have been created for the sole purpose of accounting logically for the association of certain acts with certain other acts.[3]

in French. Latin avoids the substantive even when it is available and tends to replace it with a paraphrase; for example, 'hearers': *animi eorum qui audiunt;* instead of *auditorum.* For the adjective to be turned into a substantive, it must result distinctly from the arrangement of the words in a sentence and from the sentence as a whole that the adjective designates not the quality, but a definite person or thing possessing the quality." That is the exact opposite of the process which is alleged to have taken place in the little gods considered as qualifying abstractions. Riemann-Goelzer, *Grammaire comparée du grec et du latin,* p. 741, note: "In the beginning the adjective was not distinct from the substantive . . . the substantive derived from the adjective: before coming to substance, people first saw an object only in its modes, in its apparent and striking attributes: a ζῷον was a 'living thing,' an *animal* was a 'thing endowed with life.' Only at a comparatively late date, in an advanced state of civilization when the mind had become capable of conceiving of the object independently of its attributes, were substantives distinguished from adjectives." We cannot, therefore, assume the contrary: namely, that abstract beings, such as Providence, were first conceived, and that the modes whereby they manifested themselves were imagined later. Observation shows that people went from modes to beings—beings most often imaginary.

177 [3] *De civitate Dei,* VI, 9: "If a man assigned two nurses to a child, the one just for giving him his food, the other his drink, the way two goddesses Educa and Potina were appointed to those offices, would we not say that he was mad and that in his own house he was acting like a clown? Some maintain that Liber is derived from *liberare: quod mares in coëundo per eius beneficium emissis seminibus liberentur;* and that Libera, whom they also say is Venus, performs the same service for women: *quod et ipsas perhibeant semina emittere,* and therefore the same male organ is set up in the temples to Liber, and the female likewise to Libera. . . . When the male unites with the female, the god Jugatinus presides. Be it so. But the bride has to be taken to the groom's house, and that is the business of the god Domiducus. There is the god Domitius to see that she stays there; and the goddess Maturna that she abide with her husband. What more is needed? Mercy, I pray, on decency! Let concupiscence of flesh and blood do the rest under the secret tutelage of modesty! Why crowd the bedchamber with a throng of gods, when even the 'best men' [paranymphs] have seen fit to withdraw? And yet it is so filled not that the thought of their presence may inspire higher regard for chastity, but to the end that through their concert the maiden, afraid as befits the weakness of her sex of what is in store, may be deprived of her maidenhood without mishap. And that is why the goddess Verginensis is there, and the father-god Subigo, and the mother-goddess Prema, and the goddess Pertunda, and Venus, and Priapus. And why all that? If the groom needed the help of the gods in everything he did, would not one of the gods or one of the goddesses be enough? Was not Venus enough all by herself? She was already there, summoned, they say, because without her influence a

St. Augustine, *loc. cit.*, says that Varro, speaking of the conception of man, gives a list of the gods. He begins with Janus; and, reviewing in succession all the divinities that take care of a man, step by step, down to his extreme old age, he closes with the goddess Nenia, who is naught but the mournful litany chanted at funerals of the aged. He enumerates furthermore divinities who were not concerned with a man's person directly, but rather with the things he uses, such as food, clothing, and the like.

178. Gaston Boissier says in this connexion:[1] "What first strikes one is the little life there is in these gods. No one has gone to the trouble of making legends about them. They have no history. All that is known of them is that they have to be worshipped at a given moment and that, at that time, they can be of use. The moment gone, they are forgotten. They do not have real names. The names they are given do not designate them in themselves, but merely the functions which they fulfil."

The facts are exact, the statement of them slightly erroneous, because Boissier is considering them from the standpoint of logical conduct. Not only did the gods in question have very little life—they had none at all. Once upon a time they were mere associations of acts and ideas. Only at a date relatively recent did they get to be gods (§ 995). "All that is known of them" is the little that need be known for such associations of acts and ideas. When it is said that they have

maid cannot cease to be a maid. . . . And, forsooth, if the goddess Verginensis is there that the maid's girdle be loosed; if the god Subigo is there *ut viro subigatur;* if the goddess Prema is there, *ut subacta ne se commoveat comprimatur*—what, pray, is the goddess Pertunda doing there? Shame on her! Out with her! Let the groom do something himself, I say! *Valde inhonestum est ut quod vocatur illa* (the thing that takes the name from her) *impleat quisquam nisi ille!* But that is perhaps tolerated because she is said to be a goddess not a god. For if the deity were believed a male and called Pertundus, out of respect for his bride the groom would cry for help against him in louder voice than woman in childbirth against Sylvanus. *Sed quid hoc dicam, cum ibi sit et Priapus nimius masculus, super cuius immanissimum et turpissimum fascinum sedere nova nupta iubebatur more honestissimo et religiosissimo matronarum?"* St. Augustine is right, with plenty to spare, if such acts are to be judged from the logical standpoint; but he does not observe that they were originally non-logical acts, mechanical formalities, which eventually found their place among ceremonies of divine worship.

178 [1] *La religion romaine,* Vol. I, p. 5.

to be "worshipped" at certain moments, a new name is being given to an old concept. One might better say that they were "invoked"; or better yet, that certain words were brought into play. When a person pronounces the number 2 (§ 182) to keep a scorpion from stinging, will anybody claim that he is worshipping the number 2 or invoking it? Are we to be surprised that the number 2 has no legend, no history?

179. In the *Odyssey,* X, vv. 304-05, Hermes gives Ulysses a plant to protect him from the enchantments of Circe—"black at the root, like milk in the flower. The gods call it moly. Difficult it is for mortals to tear from the ground, but the gods can do all things."

Here we have a non-logical action of the pure type. There can be no question of an operation in magic whereby a god is constrained to act. To the contrary, a god gives the plant to a mortal. No reason is adduced to explain the working of the plant. Now let us imagine that we were dealing not with a poetic fiction but with a real plant used for a real purpose. An association of ideas would arise between the plant and Hermes, and no end of logical explanations would be devised for it. The plant would be regarded as a means for constraining Hermes to action—and that really would be magic—or as a means of invoking Hermes, or as a form of Hermes or one of his names, or as a means of paying homage to "forces of nature." Homer designates the plant by the words φάρμακον ἐσθλόν, which might be translated "healing remedy." Is it not evident, one might argue, that there is a resort to natural forces to counteract the pernicious effects of a poison? And so on to all the rank tanglewood of notions that might be read into Homer's story![1]

179 [1] The idea is not altogether hypothetical. That blessed weed has a whole literature all its own! Eustathius, *Commentarii ad Homeri Odysseam,* Vol. I, p. 381, offers us our choice between two interpretations. The one is mythological. The giant Pikolous, in flight after his battle with Zeus, landed on Circe's island and attacked her. The Sun rushed to the rescue of his daughter and slew the giant. From the blood that was spilled on the ground there sprouted a plant which was named μῶλυ after the terrible fight (μῶλος) the giant had offered. The blossom is milk-white because of the bright sun; and the root black because the giant's blood was black, or because of Circe's terror. Hephestion tells more or less the same story.

If that interpretation is not to your liking, Eustathius has another ready—alle-

180. The human being has such a weakness for adding logical developments to non-logical behaviour that anything can serve as an excuse for him to turn to that favourite occupation. Associations of ideas and acts were probably as abundant at one time in Greece as they were in Rome; but in Greece most of them disappeared, and sooner than was the case in Rome. Greek anthropomorphism transformed simple associations of ideas and acts into attributes of gods.

gorical, this time [*Op. cit., loc. cit.*]: μῶλυ is education; the root is black, to symbolize ignorance; the flowers milk-white, to symbolize the splendours of knowledge. The plant is difficult to pull up because learning is an arduous achievement. Now all we need is that some pupil of Max Müller shall bob up and tell us that that plant with the black root and the white blossoms, which mortals are unable to pull up, and which has beneficent effects, is the Sun, which rises from the darkness of the night, is brilliantly luminous, cannot be disturbed by any human act, and gives life to the earth.

Pliny, *Historia naturalis,* XXV, 8 (4) (Bostock-Riley, Vol. V, pp. 87-88): "Most celebrated of plants, according to Homer, is the one that he believes was named moly [*Allium magicum,* "witch-garlic," according to Littré, in the notes to his translation of Pliny] by the gods themselves, the discovery of which he credits to Mercury and which he represents as efficacious against deadly poisons [Bostock-Riley: "Against the most potent spells of sorcery"]. It is said that a plant of that name still grows today about Lake Pheneus and at Cyllene in Arcady. It is like the plant mentioned by Homer. It has a round black root, about the size of an onion, with leaves like the squill. It is hard to pull up. [Bostock-Riley: "There is no difficulty experienced in taking it up"]. Greek writers say its blossom is yellow, but Homer describes it as pure white. I once met a physician whose hobby was botany, and he told me that the 'moly' also grew in Italy; and some few days later he brought me a specimen from Campania that he had pulled up with great difficulty from a rocky soil. The root was thirty feet long; and that was not the whole of it, for it had broken off." Theophrastus, *Historia plantarum,* IX, 15, 7 (Hort, Vol. II, pp. 294-95): "The *moly* is found at Pheneus and in the Cyllene region. They also say that it is like the plant Homer mentions. It has a round root, like an onion. The leaves are like the squill. It is used as an antidote and in magic rites. It is not as hard to pull up as Homer says." All of these writers take Homer's μῶλυ for a real plant. [Littré's note identifying the moly as "witch-garlic" is not his own but derives from Antoine Laurent Fée, biographer of Linnaeus, who edited Pliny's botany for the French translation of Pliny that was published in 1826 by François Étienne Ajasson de Grandsagne.—A. L.]

In the Middle Ages the mandrake enjoyed a very considerable prestige. Mercury has vanished, but Satan is on hand to replace him. O'Reilly, *Les deux procès de condamnation de Jeanne d'Arc,* Vol. II, pp. 164-65: "Jeanne was in the habit of carrying a mandrake on her person, hoping thereby to procure fortune and riches in this world. She believed, in fact, that the mandrake had the virtue of bringing good fortune. *Q.* What have you to say [about the charge] as to the mandrake? *A.* That is false, absolutely. (Abstract of examinations relative to Charge 7): Thurs-

Says Boissier:[1] "Other countries no doubt felt the need of putting the principal acts of life under divine protection, but ordinarily for such purposes gods well known, powerful, tried and tested of long experience, were chosen, that there might be no doubt as to their efficacy. In Greece the great Athena or the wise Hermes was called upon that a child might grow up competent and wise. In Rome there was a preference for special gods, created for particular purposes and used for no others." The facts are exact, but the explanation is altogether wrong, and again because Boissier is working from the standpoint of logical conduct. His explanation is like an explanation one might make of the declensions in Latin grammar: "Other countries no doubt felt the need of distinguishing the functions of substantive and adjective in a sentence, but ordinarily they chose prepositions for that purpose." No, peoples did not choose their gods, any more than they chose the grammatical forms of their languages. The Athenians never came to any decision in the matter of placing their children under the protection of Hermes and Athena, any more than the Romans after mature reflection chose Vaticanus, Fabulinus, Educa, and Potina for that purpose.

181. It may be that what we see in Greece is merely a stage, somewhat more advanced than the one we find in Rome, in the evolution from the concrete to the abstract, from the non-logical to the logical. It may also be that the evolution was different in the two countries. That point we cannot determine with certainty for lack of documents. In any event—and that is the important thing for the study in which we are engaged—the stages of evolution in Greece and in Rome in historical times were different.

182. In virtue of a most interesting persistence of associations of ideas and acts, words seem to possess some mysterious power over

day, March 1. Questioned as to what she did with her mandrake, she answered that she had never had one, that she had heard that there was one near her house, without having seen it. It was, she had been told, a dangerous and wicked thing to keep. She did not know what it might be used for. Questioned as to the place where the mandrake of which she had heard was, she answered that she had heard it was on the ground near a tree, but she did not know where. She had heard that it was under a walnut-tree."

180 [1] *La religion romaine,* Vol. I, p. 4.

things.[1] Even as late as the day of Pliny the Naturalist, one could still write:[2] "With regard to remedies derived from human beings there is a very important question that remains unsettled: Do magic words, charms, and incantations have any power? If so, it has to be ascribed to the human being. Individually, one by one, our wisest minds have no faith in such things; but in the mass, in their everyday lives, people believe in them unconsciously.[3] [Pliny is an excellent observer here, describing a non-logical action beautifully.] In truth it seems to do no good to sacrifice victims and impossible properly to consult the gods without chants of prayer.[4] The words that are used, moreover, are of different kinds, some serving for entreaty, others for averting evil, others for commendation.[5] We see that our supreme

182 [1] Here we come by induction upon a matter that will be studied deductively and at length in Chapter VI—and we shall meet it in other places also. Other similar cases, which we need not specify, will occur in this present chapter. Just here we are exploring the material before us, now in one direction, now in another. In chapters to follow we shall complete investigations that are merely labelled here for future reference.

182 [2] *Historia naturalis,* XXVIII, 2 (3) (Bostock-Riley, Vol. V, pp. 278-80). This quotation will be of use to us elsewhere. We transcribe it therefore somewhat fully. [Translations of this passage present wide differences. I note in brackets important variations between Pareto's version and that of Bostock-Riley.—A. L.]

182 [3] The Latin reads: *"In universum vero omnibus horis credit vita, nec sentit.* Dalechamps paraphrases (Leyden, 1669, Vol. III, p. 161): *Credit vulgi opinio valere verba nec certa cognitione et rerum sensu id persuasum habet."* Cicero too bars any rational process. *De divinatione,* I, 3, 3: "And the ancients, in my judgment, established such practices rather under admonition of experience than at the dictates of reason." *Cf.* § 296[3].

182 [4] The Latin reads: *"Quippe victimas caedi sine precatione non videtur referre nec deos rite consuli."* The difficulty lies in the verb *referre.* Gronov well paraphrases (Leyden, 1669, Vol. III, p. 798): *" 'Sine precatione non videtur referre* [*Id est, nihil iuvare putatur, nihil prodesse vulgo creditur*] *caedi victimas, nec videtur deos rite consuli.' Quo significat necessario preces adhibendas."* [Bostock-Riley follow Gronov: "It is the general belief that without a general form of prayer it would be useless to immolate a victim."—A. L.]

182 [5] Text: *"Praeterea alia sunt verba impetritis, alia depulsoriis, alia commentationis* [*commentationis* for *commendationis*]." *Impetritum* is a technical term of augury and designates a request made of the gods according to ritual. Cicero, *De divinatione,* II, 15, 35: "How comes it that a person desiring to ask an omen of the gods (*impetrire*) sacrifices a victim appropriate to his need (*rebus suis*)?" Valerius Maximus, *De dictis factisque memorabilibus,* I, 1, 1: "Our forefathers provided that fixed and solemn ceremonies should be entrusted (*explicari voluerunt*) to the learning of pontiffs, assurances of success (*bene gerendarum rerum auctoritates*)

magistrates pray with specified words. And in order that no word be omitted or uttered out of its proper place, a prompter accompanies from the ritual, another person repeats the words, another preserves 'silence,' and a flutist plays so that nothing else may be heard. The two following facts are deservedly memorable. Whenever a prayer has been interrupted by an invocation or been badly recited, forthwith, without hands being laid to the victim, the top of the liver, or else the heart, has been found either missing or double. Still extant, as a revered example, is the formula with which the Decii, father and son, uttered their vows,[6] and we have the prayer uttered by the Vestal Tuccia when, accused of incest, she carried water in a sieve, in the Roman year 609. A man and a woman from Greece, or from some other country with which we were at war, were once buried alive in the Forum Boarium, and such a thing has been seen even in our time. If one but read the sacred prayer that the head of the College of the Quindecemviri is wont to recite ["on such occasions" —Bostock-Riley], one will bear witness to the power of the prayer as demonstrated by the eight hundred and thirty years of our continued prosperity [Bostock-Riley: "by the experience of eight hundred"]. We believe in our day that with a certain prayer our Vestals can arrest the flight of fugitive slaves who have not yet crossed the boundaries of Rome. Once that is granted, once we concede that the gods answer certain prayers or allow themselves to be moved by such words, we have to grant all the rest." [7]

Going on, *loc. cit.*, 5(3), Pliny appeals to conscience, not to rea-

to the observation of augurs, prophecy to the books of the soothsayers of Apollo, and exorcisms of unfavourable omens (*portentorum depulsiones*) to the lore of the Etruscans. By ancient custom, divine influences are invoked, in case of a commendation through a prayer; when something is requested, through a vow; when a favour is to be paid for, by a thanksgiving (*gratulatione*); when information is sought either of entrails or of lots, through a petition (*impetrito,* that is, by an observation of omens); when a solemn rite is called for (*cum solemni ritu peragendum*) by a sacrifice, wherewith also the significance of portents and lightning bolts is carefully observed."

182 [6] Livy, *Ab urbe condita,* VIII, 9, 6-8; X, 28, 14-18.

182 [7] The Latin reads: *"Confitendum sit de tota coniectione."* Gronov paraphrases (Leyden, 1669, Vol. III, p. 798): *"Perinde est ac si dixisset: de tota lite, de tota quaestione* (we have to surrender "on the whole issue")."

son, that is, he emphasizes, and very soundly, the non-logical character of the acts in question: "I would appeal, too, for confirmation on this subject, to the intimate experience of the individual [Bostock-Riley translation]. . . . Why do we wish each other a happy new year on the first day of each year? Why do we select men with propitious names to lead the victims in public sacrifices? . . . Why do we believe that odd numbers are more effective than others [8]—a thing [Bostock-Riley] that is particularly observed with reference to the critical days in fever. . . . Attalus [Philometor] avers that if one pronounces the number *duo* [9] at sight of a scorpion, the scorpion stops and does not sting." [10]

183. These actions, in which words act upon things, belong to

182 [8] See §§ 960 f. for just a titbit from the endless amount of nonsense connected with numbers. Note Pliny's effort to justify a non-logical fancy—the influence of a day on a fever—by logic.

182 [9] Such data are abundant. For example, Thiers, *Traité des superstitions,* I, 6, 2 (Avignon, Vol. I, p. 415; Amsterdam, Vol. I, p. 101): "To stop a snake by the following conjuration (Mizauld, *Centuriae,* II, no. 93): 'I abjure thee by Him who created thee to stop, and if thou dost not, I curse thee with the curse whereby the Lord God did exterminate thee.' " It is evident that the basic fact in the situation is the feeling that it is possible to act on certain animals by means of certain definite words (element *a* in § 798); the secondary fact is in the words themselves (element *b* in § 798). The basic fact belongs to a very populous class of facts comprising the sentiments which induce human beings to believe that things can be influenced by means of words (genus I-γ of § 888). It is interesting that though Thiers considers certain superstitions absurd, he does not think of them all that way (Avignon, Vol. I, Preface, pp. viii-ix [Amsterdam, Vol. I, p. ii, publisher's note *Au lecteur,* quoting Thiers to the same general effect]): "I have quoted superstitions entire when I felt that there could be no harm in doing so and when it seemed in a way necessary not to abbreviate them if they were to be correctly understood. But I have often used dots and *etc.'s* for certain words, letters, signs, and other things, with which they have to be equipped in order to produce the effects desired of them, because I was afraid of inspiring evil in my effort to combat it."

182 [10] Cicero, *De divinatione,* I, 45, 102: "The Pythagoreans noted the words not only of gods but also of men, calling such things 'omens.' And our forefathers thought words very important, and began everything they did by uttering the formula 'May it be good, fortunate, propitious, successful.' At ceremonies conducted in public there was always the request for silence (*favorent linguis*), and proclamations of religious festivals contained an injunction of abstinence from quarrels and brawls. When a colony was receiving the lustration from its head, an army from its general, the People from the Censor, the individuals who led the victims to sacrifice had to have auspicious names; and so in enlisting men for the army the consuls made sure that the first soldier taken had a good name."

that class of operations which ordinary language more or less vaguely designates as magic. In the extreme type, certain words or acts, by some unknown virtue, have the power to produce certain effects. Next a first coating of logic explains that power as due to the interposition of higher beings, of deities. Going on in that direction we finally get to another extreme where the action is logical throughout—the mediaeval belief, for instance, that by selling his soul to the Devil a human being could acquire the power to harm people. When a person interested strictly in logical actions happens on phenomena of the kind just mentioned, he looks at them contemptuously as pathological states of mind, and goes his way without further thought of them. But anyone aware of the important part non-logical behaviour plays in human society must examine them with great care.[1]

184. Let us suppose that the only cases known to us showed that success in operations in magic depended on the activity of the Devil. Then we might accept the logical interpretation and say, "Men believe in the efficacy of magic because they believe in the Devil." That inference would not be substantially modified by our discovery of other cases where some other divinity functioned in place of the Devil. But it collapses the moment we meet cases that are absolutely independent of any sort of divine collaboration whatsoever. It is then apparent that the essential element in such phenomena is the non-logical action that associates certain words, invocations, practices, with certain desired effects; and that the presence of gods, demons, spirits, and so on is nothing but a logical form that is given to those associations.[1]

The substance remaining intact, several forms may coexist in one individual without his knowing just what share belongs to each. The witch in Theocritus, *Idyllia,* II, vv. 14-17, relies both upon the con-

183 [1] In this, as in other cases, induction has led us to the threshold of an investigation that we shall have to prosecute at length hereafter. Here we shall still go groping along trying to find some road that will take us to our destination—knowledge of the nature and forms of human societies.

184 [1] Here again we get one of the many situations considered in § 162. The logical form serves to connect *C* with *B*.

tributions of gods and upon the efficacy of magic, without distinguishing very clearly just how the two powers are to function. She beseeches Hecate to make the philtres she is preparing deadlier than the potions of Circe, or Medea, or the golden-haired Perimede. Had she relied on Hecate alone, it would have been simpler for her to ask the goddess directly for results that she hoped to get from the philtres. When she repeats the refrain "Wry-neck, wry-neck (*ἰυγή*, a magic bird), drag this man to my dwelling!" she is evidently envisaging some occult relationship between the bird and the effect she desires.[2]

For countless ages people have believed in such nonsense in one form or another; and there are some who take such things seriously even in our day. Only, for the past two or three hundred years there has been an increase in the number of people who laugh at them as Lucian did. But the vogue of spiritualism, telepathy, Christian Science (§ 1695[2]), and what not, is enough to show what enormous power these sentiments and others like them still have today.[3]

184 [2] Samples of the kind are available for all peoples and in any quantity desired—one has only the embarrassment of choice. The charms imparted by Cato seem to have nothing whatever to do with gods: they function all by themselves. *De re rustica,* 160: "In cases of sprain, a cure may be obtained by the following charm. Take a green stick four or five feet long. Split it in two down the middle, and have two men hold [the two pieces] at [your] hips. Then begin to chant: *In alio s.f. motas vaeta daries dardaries astataries dissunapiter,* and keep on till ["the free ends" (Harrison)] come together [in front of you]. Brandish a knife (*ferrum*) in the air over them. Take them in your hand at the point where they touch on coming together and cut them off, right and left. Bind [the pieces] to the sprain or fracture and it will heal." Pliny mentions this magic formula given by Cato and adds others; *Historia naturalis,* XXVIII, 4 (2) (Bostock-Riley, Vol. V, p. 283): "Cato has handed down to us a magic cure for sprained limbs, and M. Varro one for gout. They say that Caesar, the dictator, after a serious accident in a carriage, was accustomed, before taking his seat in one, to repeat a rigmarole three times to make sure of a safe ride, and we know that many people nowadays do the same."

184 [3] Lucian, *Philopseudes* (Lover of Lies), 14-15 (Harmon, Vol. III, p. 343). A hyperborean magician summons a certain Chrysis to do the pleasure of her admirer, Glaucias. " 'At length the hyperborean moulded a clay Eros, and ordered it to go and fetch Chrysis. Off went the image, and before long there was a knock at the door, and there stood Chrysis! She came in and threw her arms about Glaucias's neck. You would have said she was dying for love of him; and she stayed

185. "Your ox would not die unless you had an evil neighbour," says Hesiod (*Opera et dies,* v. 348); but he does not explain how that all happens. The Laws of the XII Tables deal with the "man who shall bewitch the crops" [1] and with the "man who shall chant a curse" without explaining exactly what was involved in those operations. That type of non-logical action has also come down across the ages and is met with in our day in the use of amulets. In the country about Naples hosts of people wear coral horns on their watch-chains to ward off the evil eye. Many gamblers carry amulets and go through certain motions considered helpful to winning.[2]

186. Suppose we confine ourselves to just one of these countless non-logical actions—to rites relating to the causation or prevention of storms, and to the destruction or protection of crops. And to avoid any bewilderment resulting from examples chosen at random here and there and brought together artificially, suppose we ignore anything pertaining to countries foreign to the Graeco-Roman world. That will enable us to keep to one phenomenon in its ramifications in our Western countries, with some very few allusions to data more

on till at last we heard the cocks crowing. Away flew the Moon to Heaven, Hecate disappeared underground, all the apparitions vanished, and we saw Chrysis out of the house just about dawn.—Now, Tychiades, if you had seen that, it would have been enough to convince you that there was something in incantations.' 'Exactly,' I replied. 'If I had seen it, I should have been convinced: as it is, you must bear with me if I have not your eyes for the miraculous. But as to Chrysis, I know her for a most inflammable [and not very fastidious] lady. I do not see what occasion there was for the clay ambassador, and the Moon, no less, or for a wizard all the way from the land of the hyperboreans! Why, Chrysis would go that distance herself for the sum of twenty shillings. It is a form of incantation that she cannot resist. She is the exact opposite of an apparition. Apparitions, you tell me, take flight at the clash of brass or iron, whereas if Chrysis hears the chink of silver, she flies to the spot.' " (Fowler translation.)

185 [1] The text is given in Pliny, *Historia naturalis,* XXVIII, 4 (2): *"Qui fruges excantassit . . . Qui malum carmen incantassit . . ."* See also Seneca, *Naturales quaestiones,* IV, 6-7, and our § 194.

185 [2] Even nowadays love-philtres are still concocted by processes not materially different from the methods used of old. A court decision handed down at Lucera and examined by Attorney Vittorio Pasotti in the *Monitore dei Tribunali,* Milan, Aug. 9, 1913, recites that three women took human bones from a cemetery for the purpose of compounding a philtre that would induce a man to marry a certain woman. [From 1916 ed.]

remotely sought.[1] The method we adopt for the group of facts we are about to study is the method that will serve for other similar groups of facts. The various phenomena in the group constitute a natural family, in the same sense that the Papilionaceae in botany constitute a natural family: they can readily be identified and grouped together. There are huge numbers of them. We cannot possibly mention them all, but we can consider at least their principal types.

187. We get many cases where there is a belief that by means of certain rites and practices it is possible to raise or quell a storm. At times it is not stated just how the effect ensues—it is taken as a datum of fact. At other times, the supposed reasons are given; the effect is taken as the theoretically explainable consequence of the working of certain forces. In general terms, meteorological phenomena are considered dependent upon certain rites and practices, either directly, or else indirectly, through the interposition of higher powers.

188. Palladius gives precepts without comment. Columella adds a touch of logical interpretation, saying that custom and experience have shown their efficacy.[1] Long before their time, Empedocles,

186 [1] Quite deliberately we choose, for our first example, a group of facts that, in our day at least, have little social importance. For that reason they do not arouse any sentiments likely to disturb the scientifically objective work to which we are trying to apply ourselves. Sentiments are the worst enemies the scientific study of sociology has to fear. Unfortunately we shall not always be able to side-step them in just this way. Later on the reader will have to do his part in holding his sentiments in hand.

188 [1] Palladius, *De re rustica,* I, 35: "Many things are said [to be good] for hail. A millstone is covered with a red cloth. Also, an ax stained with blood may be shaken in threat at the sky. Also, whitevine [briony, *alba vitis*] may be strung about the whole garden, or an owl may be nailed up with outspread wings, or the working-tools may be greased with bear-fat. Some people keep a supply of bear-suet beaten (*tusum*) in olive-oil on hand, and grease the sickles with it at pruning-time; but this remedy must be applied in secret, so that no pruner will know of it. It is reported to be of such efficiency that no harm can be done by any storm or pest (*neque nebula neque aliquo animali possit noceri,* taking *possit noceri* as an impersonal construction). It is also important that nothing that has been profaned be used." Pliny, *Historia naturalis,* XXVIII, 23, 1: "In the first place hail-stones, they say, whirlwinds, and lightning even, will be scared away by a woman uncovering her body while her monthly courses are upon her [Bostock-Riley, Vol. V, p. 314];

according to Diogenes Laertius, *Empedocles,* VIII, 2, 59 (Hicks, Vol. II, pp. 373-75), boasted that he had power over the rain and the winds. On one occasion when the winds were blowing hard and threatening to destroy the harvests, he had bags of ass's skin made and placed on the mountains and in that way, trapped in the bags, the winds abated (*loc. cit.,* 60, quoting Timaeus). Suidas makes this interpretation a little less absurd by saying that Empedocles stretched asses' skins about the city. Plutarch, *Adversus Colotem,* 32 (Goodwin, Vol. V, p. 381), gives an explanation still less implausible (though implausible enough) by having Empedocles save a town from plague and crop-failure by stopping up the mountain gorges through which a wind swept down over the plain. In another place, *De curiositate,* 1 (Goodwin, Vol. II, p. 424), he repeats virtually the same story, but this time mentioning only the plague. Clement of Alexandria credits Empedocles with calming a wind that was bringing disease to the inhabitants and causing barrenness in the women—and in that a new element creeps in, for the feat would be a Greek counterfeit of a Judaic miracle; and so we get a theological interpretation.[2]

and that so the violence of the heavens is averted; and out at sea tempests may be lulled in the same way, even though the woman is not menstruating at the time." Columella, *De re rustica,* I, 1 (Zweibrücken, Vol. I, p. 23).

188 [2] *Stromata,* VI, 3 (*Opera,* Vol. II, pp. 243-52; Wilson, Vol. II, pp. 321 f.). Clement mentions other cases also. The land of Greece suffering from a great drought, the Pythoness prescribed that the people should resort to prayers by Aeacus. Aeacus went up on a mountain and prayed, and soon it rained copiously. For the same incident, see Pindar's scholiast, *Nemea,* V, 17 (Abel, Vol. II, p. 155); Diodorus Siculus, *Bibliotheca historica,* IV, 61, 1-2 (Booth, Vol. I, pp. 272-73); Pausanias, *Periegesis,* I, *Attica,* 44, 9. In the same connexion Clement recalls that Samuel also made it rain (I Kings, 12: 18). Going back to the Greeks, Clement relates how at Chios Aristeus obtained winds from Jove to temper the heat of the dog-days; and that fact is also vouched for by Hyginus, *Poeticon astronomicon,* II, 4, 5 (Chatelain, p. 17). Clement does not forget that at the time of the Persian invasion the Pythoness advised the Greeks to placate the winds (Herodotus, *Historiae,* VII, 178). Then comes the story of Empedocles; and Clement is back with his Bible again, quoting Ps., 83; Deut. 10:16, 17; Isa. 40:26. Then he remarks: "Some say that pestilences, hail-storms, wind-squalls, and other similar calamities are caused not only by natural perturbations, but also by certain demons, or by the wrath of wicked angels." He continues with the story of the officials appointed at Cleonae to prevent hail-storms, and discusses the sacrifices used for that purpose (§ 194). Then he tells about the purification of Athens by Epimenides and mentions other similar stories.

189. It is evident that here we have, as it were, a tree-trunk with many branches shooting off from it: a constant element, then a multitude of interpretations. The trunk, the constant element, is the belief that Empedocles saved a town from damage by winds; the ramifications, the interpretations, are the various conceptions of the way in which that result was achieved, and naturally they depend upon the temperaments of the writers advancing them: the practical man looks for a pseudo-experimental explanation; the theologian, for a theological explanation.

In Pausanias we get a conglomerate of pseudo-experimental, magical, and theological explanations. Speaking of a statue of Athena Anemotis erected at Motona, Pausanias writes, *Periegesis,* IV, *Messenia,* 35, 8: "It is said that Diomedes erected the statue and gave the goddess her name. Winds very violent and blowing out of season began devastating the country. Diomedes offered prayers to Athena; whereafter the country suffered no further ravages from the winds." *Ibid.,* II, *Corinth,* 12, 1: "At the foot of the hill (for the temple is built on a hill) stands the Altar of the Winds, whereon, one night each year, the priest sacrifices to the winds. In four pits that are there he performs other secret ceremonies to calm the fury of the winds, and likewise chants magic words that are said to come down from Medea." *Ibid.,* 34: "I record this fact also, whereat I marvelled greatly while among the Methanians. If the south-east wind ["the Lipz"] blows in from the Saronic Gulf when the vines are budding, it dries up the buds. So, as soon as the wind begins to blow, two men take a white-feathered cock, tear it in two, and run around the vineyards in opposite directions, each carrying half of the cock. Coming back to the point at which they started, they bury it. Such the remedy they have devised against that wind."

Pomponius Mela mentions nine virgins who dwelt on the "Isle of Sena" and who were able to stir up the winds and the sea with their chants.[1] In the *Geoponicon,* compiled by Cassianus Bassus,

189 [1] *De situ orbis,* III, 6, 3: "On [the Isle of] Sena [Sizun, Léon] in the British sea off the shores of Brittany (*Osismicis adversa litoribus*) there is a celebrated oracle of a Gallic divinity, where the priestesses are said to be nine in number and

I, 14, several methods of saving the fields from hail are mentioned; but the compiler of that collection explains that he has transcribed them only to avoid seeming disrespectful to things that have come down from the forefathers. His own beliefs, in a word, are different.

190. One branch shooting off from this nucleus of interpretation overlying non-logical behaviour ends in a deification of tempests. Cicero, *De natura deorum,* III, 20, 51, has Cotta meet Balbus with the objection that if the sky, the stars, and the phenomena of weather were to be deified the number of the gods would be absurdly great. In this case the deification stands by itself; in other examples, it bifurcates and gives rise to numerous interpretations, personifications, explanations.[1]

191. Capacity for controlling winds and storms becomes a sign of intellectual or spiritual power, as in Empedocles; or even of

sanctified by perpetual chastity. They are called 'Barrigenae' (variant, Gallicenae) and are supposed to be endowed with remarkable abilities to raise winds and high seas with their incantations, to turn into any animal they choose, cure diseases usually considered incurable, and see and predict the future; though they will perform such favours only for mariners who have made special voyages for the purpose of consulting them." Reinach deals with this text in *Cultes, mythes et religions,* Vol. I, p. 199, *Les vierges de Sena.* He thinks that Mela was repeating information derived from Greek traditions: "Whatever Mela's immediate source in what he says of the Isle of Sena, there is reason to suppose that the substance of his story is very ancient. I believe I detect traces of it in the *Odyssey* itself, that prototype, as Lucian was to say in his time, of all the geographical romances of antiquity." That may well be; or it may also be that both the stories in the *Odyssey* and the others had a common origin in the notion that it is possible to influence winds, a notion that was variously elaborated and explained as time went on.

190 [1] There are Latin inscriptions with invocations to the "divine" winds. *Corpus inscriptionum Latinarum,* Vol. III-I, nos. 2609-10, p. 308 (Orelli, *Inscriptionum collectio,* no. 1271): *"Iovi O.M. tempestatum divinarum potenti leg. III Aug. dedicante."* Maury, *Histoire des religions de la Grèce antique,* Vol. I, pp. 166-69: "The winds were also worshipped by the primitive peoples of Greece, but that cult, which plays such an important part in the Rig-Veda, had noticeably weakened among the Hellenes. The winds continue, of course, to be personified, but they are worshipped only on special occasions and in certain localities. . . . Among the Chinese, worship of winds and mountains was associated with worship of streams (Biot, *Le Tchéou-li,* Vol. II, p. 86). When the Emperor drove over a mountain in his chariot, the driver offered a sacrifice to the mountain's genius (*Ibid.,* Vol. II, p. 249). . . . The ancient Finns also addressed the winds as gods, especially north and south winds, the cold ones in formulas of disparagement."

divinity, as in Christ quelling the tempest.[1] Magicians and witches demonstrate their powers in that fashion; and Greek anthropomorphism knows lords of winds, storms, and the sea.

192. Sacrifices were made to the winds. The sacrifice is just a logical development of a magical operation like the use of the white cock just described. In fact for that ceremony to become a sacrifice, it need simply be stated that the cock is torn in twain as a sacrifice to this or that divinity.

Virgil has a black sheep sacrificed to the Tempest, a white sheep to the fair Zephyr. Note the elements in his action: 1. *Principal element:* the notion that it is possible to influence the winds by means of certain acts. 2. *Secondary element:* logical explanation of such acts, by introducing an imaginary being (personified winds, divinities, and the like). 3. *An element still more secondary:* specification of the acts, through certain similarities between black sheep and storms, white sheep and fair winds.[1]

193. The winds protected the Greeks against the Persian invasion

191 [1] Matt. 8:23-27. The disciples, in wonder at the cessation of the storm, exclaim: "What manner of man is this that even the winds and the sea obey him!"

192 [1] *Aeneid,* III, 115: "Let us appease the winds, and strike out for the realms of Gnosus." And III, 118: "So saying, he made the due sacrifices on the altars: a bull to Neptune, and a bull to thee, fair Apollo; a black sheep to Hiems [god of storms] and a white sheep to the favouring Zephyrs." Servius annotates (Thilo-Hagen, Vol. I, pp. 364-65): *"due* [*meritos*]: appropriate to each god. . . . The kind of victim should correspond to the character of the divinity, for the victim is sacrificed either for its oppositeness to the gifts of the god, as, for instance, a pig to Ceres, the pig being destructive to crops; or a he-goat to Liber, the goat being harmful to grape-vines; or indeed by way of similitude, as black sheep to the nether gods, and white sheep to the gods of Heaven, black sheep to the Tempests and white to Fair Weather. . . . 'A black sheep to Hiems,' etc. Aeneas performed the sacrifices in the proper order, first averting evil influences, the more readily to allure the good ones."

Aristophanes, *Ranae,* vv. 847-48, plays upon this custom and calls for a black lamb to sacrifice as a shelter from the hurricane which Aeschylus is about to stir up through his chaffing at Euripides: *"Dionysus:* Quick, boys, a black-fleeced ewe! A hurricane is upon us!" The scholiast notes (Dübner, pp. 299, 530, 701): *"Black ewe:* because that is the sacrifice offered to the storm, Typhon, that the hurricane may cease; a black *ewe:* since that is the sacrifice offered to Typhon when the storm is in the form of a tornado. . . . *Black* and not white because Typhon is black."

and in gratitude the Delphians reared an altar to them at Pthios.[1] It is a familiar fact that Boreas, son-in-law to the Athenians by virtue of his marriage to Orithyia, daughter of Erechtheus, dispersed the Persian fleet, and therefore well deserved the altar that the Athenians reared in his honour on the shores of the Ilissus.[2]

Boreas, good fellow, looked after other people besides the Athenians. He destroyed the fleet of Dionysius, as the latter was voyaging to attack the Thurii (Tarentines). "The Thurii therefore sacrificed to Boreas and elected that wind to citizenship [in their city]; assigned him a house and a piece of land, and each year celebrated a festival in his honour." [3] He also saved the Megalopolitanians when they were besieged by the Spartans; and for that reason they offered sacrifices to him every year and honoured him as punctiliously as any other god.[4]

The art of lulling the winds was known to the Persian Magi also. Herodotus relates, *Historiae,* VII, 191, in connexion with the tempest that Boreas raised to help the Athenians and which inflicted heavy losses on the Persian fleet: "For three days the storm raged. The Magi sacrificed victims and addressed magical incantations to the wind, and sacrificed further to Thetis and the Nereids. Whereupon the winds ceased on the fourth day—unless it be that they fell of their own accord." Interesting this scepticism on the part of Herodotus! [5]

193 [1] Herodotus, *Historiae,* VII, 178.

193 [2] Herodotus, *loc. cit.,* 189. At a later date one gets an interpretation that clears the episode of the supernatural element and explains it logically—a particular instance of a procedure that is general. Scholiast on Apollonius, *Argonautica,* I, v. 211 (Wellauer, Vol. II, p. 13): "Heragoras [read Hereas] says in his *Megarica* that Boreas, ravisher of Orithyia, was not the wind [of that name] but [a human being] son of Strymon." And *cf.* Carl Müller's note on this scholium in his *Fragmenta historicorum Graecorum,* Vol. IV, p. 427. Still to be found are similar interpretations for other similar cases in which, according to the Athenians, Boreas was of help to them. But that is very easy: there must have been no end of individuals named Boreas!

193 [3] Aelian, *De varia historia,* XII, 61.

193 [4] Pausanias, *Periegesis,* VIII, *Arcadia,* 36, 6 (Dindorf, p. 411).

193 [5] Herodotus has some doubts also as to the aid lent by Boreas to the Athenians. He cautions that he does not know that Boreas really scattered the Barbarian fleet in answer to the prayers of the Athenians. He does know that the

194. The notion that winds, rains, tempests, can be produced by art of magic is a common one in ancient writers.[1] Seneca discusses the causes of weather at length and derides magic. He does not admit the possibility of forecasting the weather by observation, regarding observation as just a preparation for the rites commonly

Athenians assert that Boreas helped them at that time and that he had done so on previous occasions: *Historiae,* VII, 189: *οἱ δ'ὧν Αθηναῖοι σφίσι λέγουσι βοηθήσαντα τὸν Βορέην πρότερον καὶ τότε ἐκεῖνα κατεργάσασθαι.*

194 [1] Tibullus, for example, *Delia,* 2, vv. 51-52, mentions a witch at whose pleasure clouds vanish from the sky and snow falls in summer:

"Cum libet haec tristi depellit nubila caelo,
cum libet aestivo convocat orbe nives."

And Ovid, *Amores,* I, 8, vv. 5, 9-10: "She knows the arts of witchcraft and the chants of Circe (*Aeaeaque carmina*). . . . At her pleasure clouds gather over the whole sky, at her pleasure bright day shines forth from the whole orb of Heaven." In Ovid's *Metamorphoses,* VII, v. 201, Medea boasts: "The clouds I bring and drive away, the winds I raise and hush." And Seneca makes her say in *Medea,* vv. 754, 765: "Rain I called forth from dry clouds. . . . The waves began to moan, and wildly did the sea rage, though there was no wind." And see his *Hercules Oetaeus,* vv. 452 f. Lucan, *Pharsalia,* VI, vv. 440-61, describes the arts of a witch of Thessaly at length. It is noteworthy that her powers availed not through grace of the gods but against their will, compelling them. In Thessaly, says Lucan:

". . . plurima surgunt
Vim factura deis . . ."

(". . . many a plant grows that can force the hand of the gods.") At the command of the Thessalian witch, *Ibid.,* vv. 467-77:

"Cessavere vices rerum, dilataque longa
haesit nocte dies; legi non paruit aether,
torpuit et praeceps audito carmine mundus,
axibus et rapidis impulsos Iuppiter urguens
miratur non ire polos. Nunc omnia conplent
imbribus et calido praeducunt nubila Phoebo,
et tonat ignaro caelum Iove; vocibus isdem
umentes late nebulas nimbosque solutis
excussere comis. Ventis cessantibus aequor
intumuit; rursus vetitum sentire procellas
conticuit turbante Noto . . ."

("The natural changes cease to function. Daylight lingers as night is lengthened; the atmosphere follows not its laws. Under the incantations of the witches the swift-whirling firmament comes to a stop and Jupiter notes with surprise that the heavens cease to turn on their axes. Now they [the witches] drench the earth in rain and make clouds appear under a hot sun: there are peals of thunder that Jove knows nothing of. So with their magic words (*vocibus*) they dispel the canopy of watery vapour and cause the tresses of the storm-clouds to vanish. Now the sea lashes wild

performed for averting storms.[2] He says that at Cleonae there were public officials known as "hail-observers." As soon as they gave warning of the approach of a storm, the inhabitants rushed to the temple and sacrificed some a ewe, others a fowl. Those who had nothing to sacrifice pricked a finger and shed a little blood, and the clouds moved on in another direction. "People have wondered how that happens. Some, as befits educated people, deny that it is possible to bargain with hail-stones and ransom oneself from storms by trifling gifts, granted that gifts sway even the gods. Others suspect that the blood may contain some property that is able to banish clouds. But how can so little blood contain a force of such magnitude as to work far up in the skies and be felt by clouds? How much simpler to say that it is stuff and nonsense. All the same the officials entrusted with forecasting storms at Cleonae were punished when through oversight on their part the vines and the crops were damaged. Our own XII Tables forbid anyone's laying an enchantment on another's crops. An ignorant antiquity believed that clouds could be compelled or dispelled by magic. But such things are so manifestly impossible that no great schooling is required to know as much."

Few writers, however, evince the scepticism of Seneca, and we have a long series of legends about storms and winds that come down to a day very close to our own.

195. The Roman legions led by Marcus Aurelius against the Quadi chanced to be caught by a shortage of water, but a storm came

though there is no wind or lies smooth and calm under the blasts of Notus which it has been forbidden to heed.")

Philostratus, *Vita Apollonii,* III, 14: Coming to the place where the Brahmans dwelt, Apollonius and his companions "beheld two jars of black stone, one the jar of rain and the other the jar of the winds. If India is suffering from a drought, the one containing the rain is opened, and it sends clouds and rains over all the land. If there is too much rain, the jar is closed, and the storm ceases. The jar of the winds works, I should say, something like the bag of Aeolus. If it is opened, one of the winds gets out, and it blows where it is needed and dries the land."

194 [2] *Naturales quaestiones,* IV, 6-7: "I cannot refrain from alluding to the plenteous idiocies of our own Stoics. They say that there are individuals who are expert at observing the clouds and predicting when it is going to hail, the which they are able to do by long experience in noting such colours in the clouds as hail quite frequently (*totiens*) follows."

along just in time to save them. The fact seems to be well authenticated.[1] So then, the why and wherefore of the storm has to be explained; and everybody does so according to his individual sentiments and inclinations.

It may be a case of witchcraft. Even the name of the magician is known—in such cases one can be very specific at small cost! Suidas says he was one Arnuphis, "an Egyptian philosopher who, being in attendance on Marcus Aurelius, the philosopher, Emperor of the Romans, at the time when the Romans fell short of water, straightway caused black clouds to gather in the skies and a heavy rain to fall, wherewith thunder and frequent lightning; and those things he did of his science. Others say that the prodigy was the work of Julian the Chaldean."[2]

Then again pagan gods may have a hand in it—otherwise what are gods good for? Dio Cassius, *Historia Romana,* LXXII, 8 (Cary, Vol. IX, pp. 27-29), says that while the Romans were hard pressed by the Quadi and were suffering terribly from heat and thirst, "of a sudden many clouds gathered and much rain fell, not without divine purpose, and violently. And it is said of this that an Egyptian magician, Arnuphis by name, who was with Marcus, invoked a number of divinities[3] by magic art, and chiefly Hermes Aërius, and so brought on the rain."

Claudian believes that the enemy was put to flight by a rain of fire. And the cause? Magic, or else benevolence of Jove the Thunderer.[4] Capitolinus knows that Marcus Antoninus "with his prayers

195 [1] We need not inquire here whether the legion called the Fulminata got its name from that episode. The question is irrelevant to our present purposes. Even if the story of the storm were itself not true, the example would serve quite as well, since we are interested not in the historical fact but in the sentiments disclosed by the stories, true or false, that grew up around it.

195 [2] *Lexicon, s.v.* Ἀρνοῦφις.

195 [3] Strictly "demons"; but the pagan *δαίμονες* must not be confused with the Christian "demons" (§ 1613).

195 [4] *Panegyricus de sexto consulatu Honorii Augusti,* vv. 342-49 (*Carmina,* Vol. II, p. 98):

> ". . . *nam flammeus imber in hostem decidit . . .*
> *tunc contenta polo mortalis nescia teli*
> *pugna fuit, Chaldaea mago seu carmina ritu*

turned the thunderbolts of heaven against the war machines of the enemy and obtained rain for his soldiers who were suffering from thirst.[5] With Lampridius the episode is further elaborated and assumes new garb. Marcus Antoninus has succeeded in making the Marcomanni friendly to the Romans by certain magical practices. The formulas are withheld from Elagabalus in fear lest he be desiring to start a new war.[6]

armavere deos, seu, quod reor, omne Tonantis
obsequium Marci mores potuere mereri."

("For a storm of fire descended upon the enemy. . . . Then a battle knowing no mortal weapon was fought by Heaven alone: for either Chaldean chants by magic rite had armed the gods; or else, as I believe, the character (*mores*) of Marcus merited all deference from the Thunderer.") Note the ethical elaboration. Boreas interposes on the basis of a mere family relationship with the Athenians. The Thunderer intervenes here not as a favour to Marcus, but in view of his good character. Such transformations are general.

195 [5] *Marcus Antoninus Philosophus,* 24, 4. The case of a storm favouring one of two belligerents as a result of magic or by divine goodwill is to be noted in countries widely separated and under such conditions as to preclude any suspicion of imitation. In *The Chinese,* Vol. II, 1806, p. 112; 1836, pp. 117-18, Davis transcribes a passage from the *History of the Three Kingdoms:* "Lew-pei took occasion to steal upon Chang-paou with his whole force, to baffle which the latter mounted his horse, and, with dishevelled hair and waving sword, betook himself to magic arts. The wind arose with loud peals of thunder, and there descended from on high a black cloud, in which appeared innumerable men and horses as if engaged. Lew-pei immediately drew off his troops in confusion, and giving up the contest, retreated to consult with Choo-tsien. The latter observed, 'Let him have recourse again to magic; I will prepare the blood of swine, sheep, and dogs.' . . . On the following day, Chang-paou, with flags displayed and drums beating, came forth to offer battle, and Lew-pei proceeded to meet him; but scarcely had they joined before Chang-paou put his magic in exercise; the wind and thunder arose, and a storm of sand and stone commenced. A dark cloud obscured the sky, and troops of horsemen seemed to descend. Lew-pei upon this made a show of retreating, and Chang-paou followed him; but scarcely had they turned the hill when the ambushed troops started up and launched upon the enemy their impure stores. The air seemed immediately filled with men and horses of paper or straw, which fell to the earth in confusion; while the winds and thunder at once ceased, and the sand and stones no longer flew about."

195 [6] *Antoninus Heliogabalus,* 9, 1-2 (Magie, Vol. II, p. 125): "Desiring to make war upon the Marcomanni (Marchmen) whom Marcus (Aurelius) Antoninus had very handily (*pulcherrime*) subdued, he [Elagabalus] was told by certain individuals that Marcus had arranged through Chaldean magicians that the Marcomanni should for ever be friendly and devoted to the Roman People, and that that had been done by reciting certain chants, with a rite. When he asked what the chants

Finally the Christians claim the miracle for their God. On the passage from Dio Cassius (LXXII, 8) quoted above, Xiphilinus (Cary, *Dio,* Vol. IX, pp. 29-33) notes that Dio wittingly or unwittingly, but he suspects wittingly, misleads the reader. He surely knew—since he mentions it himself—all about the "Thundering Legion," the Fulminata, to which, and not to the magician Arnuphis, the rescue of the army was due! The truth is as follows: Marcus had a legion made up entirely of Christians. During the battle, the praetor's adjutant came and told Marcus that there was nothing which Christians were unable to obtain by prayer and that there was a legion of Christians in the army. "Hearing which, Marcus urged them to bestir themselves and pray to their God. They prayed, and God heard their prayer immediately and smote the enemy with lightning, whereas the Romans He comforted with rain." Xiphilinus adds that a letter of Marcus Aurelius on the incident was said to be in existence in his time. The letter, forged by people more distinguished for piety than veracity, is also alluded to by other writers; and Justin Martyr goes so far as to give its authentic text.[7]

were or where they could be found, he was not told; for it was certain that he was inquiring about the spell in order to undo it for the purpose of bringing on a war."

195 [7] *Apologia,* I, 71 (Migne, p. 439A, Davie, p. 55). The Emperor Marcus is writing to the Senate, and the forger makes him say of the Christians: "They prayed to a god unknown to me, and straightway water fell from the sky and to us it was ice-cold, but to the enemies of the Romans it was a hail of fire." The miracle grows and grows and gets prettier and prettier! The incident and the letter are mentioned by Tertullian, *Apologeticus,* V, 6; and Eusebius, *Historia ecclesiastica,* V, 1-6. Eusebius does not state that the Emperor requested the Christians to pray—they knelt and prayed of their own accord before the battle. The enemy was surprised at the spectacle. But a more astounding thing then occurred: a hurricane arose and put the enemy to flight, while a gentle rain refreshed the Romans. Zonaras, *Epitome historiarum,* XII, 2 (Migne, Vol. 134, pp. 1003-06), on the other hand, repeats by and large the story of the Pseudo-Justin. Orosius, *Historiae adversus paganos,* VII, 15 (Browne, p. 126), says: "The tribes had risen in insurrection, barbarous in their cruelties and countless in their multitudes, to wit: the Marcomanni, the Quadi, the Vandals, the Sarmatae, the Suebi—in fact almost all Germany. The army having advanced to the frontiers of the Quadi, it was there surrounded by the enemy, and found itself in imminent danger from thirst, but more in view of a shortage of water than because of the foe. Whereupon certain of the soldiers began to pray in great earnestness of faith and publicly to call upon the name of Christ; and straightway a rain fell in such abundance as to refresh the Romans bounteously and with-

196. So the legend expands, widening in scope and gradually approximating a veritable novel. But not only the external embellishments increase in number. Concepts multiply in the substance itself. The nucleus is a mechanical concept.[1] Certain words are uttered, certain rites are performed, and the rain falls. Then comes a feeling that that has to be explained. A first theory assumes the interposition of supernatural beings. But then the interference of such gods has also to be explained, and we get a second explanation. But that explanation too bifurcates according to the supposed reasons for the intervention, foremost among which stands the ethical reason, so introducing a new concept that was altogether absent in the magical operation proper. This new concept enlarges the scope of the whole procedure. Rain was once the sole objective of the rite. Now it becomes a means whereby the divine power rewards its favourites and punishes their enemies, and then, further, a means for rewarding faith and virtue. A final step is to move on from the particular case to the general. It is no longer a question of a single fact, but of a multiplicity of facts, all following a certain rule. This

out damage, whereas the Barbarians were terrified by a rapid succession of thunderbolts and large numbers of them were killed, so that he [Marcus Aurelius] put them to rout." See also Nicephorus Callistus, *Ecclesiastica historia,* IV, 12; Cedrenus, *Historiarum compendium,* I, 250, 15-22 (Bekker, Vol. I, p. 439); Gregory of Nyssa, *Oratio II*[a] *in laudem XL martirum* (*Opera,* Vol. III, pp. 758-72).

196 [1] It appears in virtually naked form in the case of the "pluvial stone" in Rome, which needed only to be moved about the streets to produce rain. Festus, *De verborum significatione,* I, *s.v. Aquaelicium* (London, Vol. I, p. 84): "[This term] is used when rain-water is attracted by certain rites, such as dragging the 'pluvial stone' about the streets of the city as used to be done, according to legend, in days gone by." And *Ibid.,* XI, *s.v. Manalis lapis* "flowing stone" (London, Vol. I, p. 383): "The 'flowing stone,' so called, was a certain stone that lay outside the Porta Capena near the temple of Mars. In times of excessive drought this stone was carried about the streets inside the city, whereupon rain at once ensued. They called it the flowing stone because the water began flowing." So then, all that was required was to drag the stone about the city, and the rain came down at once. *Cf.* Nonius Marcellus, *De compendiosa doctrina,* 15, *s.v. Trulleum* (Mercier, p. 547); Fulgentius, *Expositio sermonum antiquorum ad Chalcidium grammaticum* (Müncker, Vol. II, pp. 169-70): "Labeo, who compiled and annotated the Etruscan rituals of the gods Tages and Bacitis, writes as follows: 'If the flesh of the liver is of a sandarac red, it is time for the flowing stones to be scraped and cleaned (*verrere*).' He means those cylinder-shaped stones which our forefathers used to drag about their properties to break a period of dry weather."

leap is taken by Tertullian. After telling the story of the rain secured by the soldiers of Marcus Aurelius, he adds: "How often have droughts not been stopped by our prayers and our fasts!" [2]

Other cases of the same kind could be adduced; which goes to show that the sentiments in which they originate are fairly common throughout the human race.[3]

197. In Christian writers it is natural that logical explanations of the general law of storms should centre about the Devil. Clement of Alexandria records the belief that wicked angels have a hand in tempests and other such calamities (§ 188 [2]).[1] But, let us not forget,

196 [2] *Ad Scapulam,* 4 (*Opera,* Vol. III, pp. 46-52; English, Vol. I, p. 51): *"Marcus quoque Aurelius in Germanica expeditione Christianorum militum orationibus ad deum factis imbres in siti impetravit.* Quando non geniculationibus et ieiunationibus nostris etiam siccitates sunt depulsae?"

196 [3] Pausanias, *Periegesis,* VIII, *Arcadia,* 38, 4 (Dindorf, pp. 414-15). The author is speaking of the spring called Hagnus on Mount Lycaeus: "When a drought has lasted for a long time and the sown seed and the trees have begun to suffer, the priest of the Lycaean Zeus offers prayers and sacrifices to the water according to the established forms and then stirs the water in the spring with an oak-branch—on the surface, not deep down. As the water is stirred a mistlike vapour rises. Soon the vapour becomes a cloud, and attracting other clouds causes rain to fall on the land of the Arcadians." We shall see (§ 203) that witches caused rain and hail by somewhat similar means, the differences being as follows: 1. The Devil of the Christians takes the place of the pagan divinities (each people of course introducing the beings deified in its own religion). 2. In Pausanias the operation is primarily beneficent. It may be so among Christians; but in general it is a wicked thing. (Deified beings usually exert influences appropriate to their individual characters and the Devil is by nature wicked.) In the present case we see an imaginary fact explained in various ways. The sentiments corresponding to the fact are evidently the constant element, the explanations the variable element.

197 [1] *Stromata,* VI, 3 (*Opera,* Vol. II, p. 247B; Wilson, Vol. II, pp. 319-23). The Dominican Inquisitors, Sprenger and Krämer, who wrote the *Malleus maleficarum,* debate learnedly and at length as to whether the Devil must always work with the magician, or whether they can function separately. *Pars* I, *quaestio* 2 (Summers, p. 12): "Whether it is sound doctrine to hold that the Devil must always co-operate with the sorcerer in an act of witchcraft, or whether the one can produce that effect without the other, as the Devil without the sorcerer, or *vice versa.*" As proof that the human being could do without the Devil or, in general terms, the "lower" without the "higher" power, some cited the fact vouched for by Albertus Magnus that sage-leaves when rotted in a certain manner and thrown into a well [Summers, "running water"] could bring on a storm. The *Malleus* has no doubts on the point, but explains it. It begins by distinguishing different effects, such as *ministeriales, noxiales, maleficiales, et naturales* [Summers, p. 14: "beneficial, hurtful, wrought by witchcraft, natural"]. The first are produced by good angels, the second by

that is just an adjunct, by way of explanation, to the basic element—the belief that it is possible to influence storms and other calamities of the kind by certain rites. Victorious Christianity had to fight for its interpretations first with ancient pagan practices and later on with magical arts that in part continued the pagan and in part were new. But great the need of escaping storms! And powerful the thought that there were ways of doing so! So in one manner or another the need was covered and the thought carried out.[2]

198. In mediaeval times individuals endowed with such powers were known as *tempestarii,* and even the law took cognizance of them. Nevertheless the Church did not recognize this power of producing storms without a struggle. The Council of Braga in the year 563 (Labbe, Vol. VI, p. 518) anathematizes anyone teaching that the Devil can produce thunder, lightning, tempests, or drought. A celebrated ecclesiastical decree denies all basis in fact to fanciful tales about witches.[1]

wicked angels, the third by the Devil with the help of sorcerers or witches, the last by influences from celestial bodies. That much clear, it is easy to see how the sage has the effects it has without the help of the Devil [Summers, p. 16]: "And thirdly, as to the sage that has been rotted and thrown into a well, it is to be said that a 'noxial' effect can ensue without the participation of the Devil but not apart from the influence of a celestial body."

197 [2] St. Gregory of Tours, *De sancto Nicetio Treverorum episcopo,* 5 (*Vitae Patrum,* XVII, *Opera,* p. 1083B), tells of an incident that happened to St. Nizier. One day a man called on the Saint to thank him for having saved his life at sea under very perilous circumstances, in the following terms: "A short time since, while in a ship on my way to Italy, I found myself amid a multitude of heathen, and in that great throng of uncouth individuals I was the only Christian. One day a tempest arose and I began to call on the name of God that by His intercession He should cause the tempest to abate. The heathen for their part were praying to their own gods, some beseeching Jove, some calling on Mercury, in loud voice, others begging help now of Minerva, now of Venus. Since we were in grave peril of death, I said to them: 'Gentlemen, pray not to those gods, for they are not gods but devils. If ye would save yourselves from this present perdition, call upon St. Nizier, that he secure you salvation of the mercy of God.' Whereupon with one loud voice they cried, 'God of Nizier, save us!' and straightway the sea subsided, the winds abated, the sun came out, and the ship sailed on whither we were bound."

198 [1] *Decretum Gratiani, pars* II, *causa* 26, *quaestio* 5, *canon* 12 (Friedberg, Vol. I, pp. 1030-31): The witches' sabbath is declared a fraud: "Wherefore the priests through the Churches entrusted to them shall preach to God's people in all urgency that they should know that all such things are altogether false and that

St. Agobard wrote an entire book "against idiotic notions current as to hail and thunder." Says he: "In these parts nearly all people, noble or villein, burgher or rustic, old or young, believe that hail and thunder can be produced at the will of men. They therefore exclaim at the first signs of thunder and lightning: 'Raised air!' Asked to explain what 'raised air' is, they will tell you, some shamefacedly as though conscious of sin, others with the wonted frankness of the ignorant, that the air has been stirred by the incantations of individuals known as 'tempestuaries' and that that is why they say 'raised air.' We have seen and heard many people possessed of such stupidity and out of their heads with such lunacy as to believe and say that there is a certain country called 'Magonie' whence ships sail out on the clouds and return laden with the grain which the hail mows and the storms blow down, and that the 'tempestuaries' are paid by such aerial mariners for the grain and other produce delivered to them. We have seen a great crowd of people—blinded by such great stupidity as to believe such things possible—drag four persons in chains before our court, three men and a woman, alleging that they had fallen from one of those ships. They had been held in chains for several days till the court convened; then they were produced, in our presence, as I said, as culprits worthy to be stoned to death. Nevertheless, after much parley the truth prevailing, the accusers were, in the prophet's words, confounded like thieves caught in the act." [2]

such phantoms are inflicted upon the minds of the faithful not by a divine but by an evil spirit. . . . For who of us is not carried outside himself in dreams and nocturnal visions and does not see in his sleep things never seen while waking? And who could be so stupid and so weak of mind as to think that all such things which take place only in the spirit take place in the body also?" The decree was taken from Reginon, *De disciplinis ecclesiasticis et religione Christiana,* II, 364 (*Opera,* p. 352). It is possibly a fragment of a capitulary of Charles the Bald. Baronio, *Annales ecclesiastici, anno* 382, XX, quotes a decree of Pope Damasus: "Likewise to be excommunicated are all such as attend to spells, auguries, fortune-telling and all other superstitions; and under the same condemnation are especially to be punished women who by the Devil's deception imagine they are carried about at night on the backs of animals and go travelling in company with Herodias."

198 [2] *Contra insulsam vulgi opinionem de grandine et tonitruis* (*Opera,* pp. 147-48). In comment on the passage, Baluze writes: "Girard, Archbishop of Tours, mentions 'tempestuaries' by name in the third section of his statutes: 'Relative to

St. Agobard demonstrates from Holy Writ the error of believing that hail and thunder are at the beck and call of human beings. Others, on the contrary, will likewise show by Scripture that the belief is sound. Yes and no have at all times been produced from Scripture with equal readiness.

199. Doctrines recognizing the powers of witches were mistrusted by the Church for two reasons, at first because they looked like survivals of paganism, the gods of which were identified with devils; then because they were tainted with Manicheism, setting up a principle of evil against a principle of good. But owing to the pressure of the popular beliefs in which the non-logical impulses involved in magic expressed themselves, the Church finally yielded to something it could not prevent, and with little trouble found an interpretation humouring popular superstition and at the same time not incompatible with Catholic theology. After all, what did it want? It wanted the principle of evil to be subordinate to the principle of good. No sooner said than done! We can grant, to be sure, that magic is the work of the Devil—but we will add, "God permitting." That will remain the final doctrine of the Catholic Church.

200. Popular superstitions exerted pressure not only upon the Church but also upon secular governments; and they, without bothering very much to find logical interpretations, set out with a will to punish all sorts of sorcerers and witches, "tempestuaries" included.[1]

spellbinders, enchanters, soothsayers, fortune-tellers, dream-readers, *tempestuaries* and rigmaroles against frosts (? *brevibus pro frigoribus*), and relative to witches and such females as deal in signs and portents of various kinds, that they may be prohibited and public punishment inflicted (*publicae poenitentiae multentur*).' "

200 [1] Eunapius relates, *Vitae philosophorum ac sophistarum, Aedisius, Sopater,* Wright, pp. 383-85, that one year it came to pass that, favourable winds failing, ships could not get to Byzantium with their grain. The famished inhabitants were being entertained in a theatre with scant success and loudly protested to the Emperor Constantine that the philosopher Sopater was the cause of the famine, since "he had shackled the winds with his transcendent science." Constantine was convinced, and ordered the man executed. Suidas, *Lexicon, s.v.* Σώπατρος Ἀπαμεύς, says that the philosopher in question was killed by Constantine "so as to make evident to all that he, Constantine, was no longer a devotee of the Hellenic religion." This version accords with the other, Suidas explaining the "convinced" of Eunapius! *Codex Theodosianus,* IX, 16, 5 (Haenel, p. 869): "Many individuals do not hesitate to disturb the elements by art of magic nor to upset the tranquillity (*vitas*) of inno-

201. Whenever a certain state of fact, a certain state of belief, exists, there is always someone on hand to try to take advantage of it; and it is therefore not surprising that Church, State, and individuals should all have tried to profit by the belief in witchcraft. St. Agobard reports that blackmail was paid to "tempestuaries," [1] and Charlemagne, no less, admonishes his subjects to pay their tithes to the Church regularly if they would be surer of their crops.[2]

cent citizens and annoy them by fatuous talk (*ventilare*) about evoking ghosts of the dead (*manibus accitis*), on pretence that they can overcome their enemies by witchcraft. Since such individuals are unnatural monsters (*naturae peregrini*), may a deadly pest destroy them." The same law appears in the *Codex Justiniani,* IX, 18, 6 (*Corpus iuris civilis,* Vol. II, p. 596; Scott, Vol. XV, p. 33). And *cf. Codex legis Wisigothorum,* VI, 2, 3 (Canciani, Vol. IV, p. 133): "Sorcerers and storm-compellers who are said to bring hail upon vineyards and grain-fields by certain incantations, and those who disturb the minds of people by conjuring up devils, wheresoever discovered and arrested by a magistrate or by a local representative or attorney [of the Crown] shall be publicly lashed with two hundred lashes, and with their hair clipped in derision they shall be forced, if unconsenting, to march around the ten estates next adjoining, that others may profit by their example." *Capitulare seculare anni 805: De incantoribus et tempestariis,* 25: "As to enchantments, fortune-telling and divinations, and individuals who cause storms or practise other witchcraft, it is the pleasure of the Council that wherever such are arrested, the archbishop of that diocese shall provide for their subjection to a most searching examination to see whether, perchance, they confess to the crimes they have committed."

201 [1] *Op. cit.,* 15: "Such idiocy is no small part of disloyalty to the Church, and meantime the evil has so spread abroad that in many places there are wretches who say they not only know how to cause storms but also how to protect the inhabitants of a locality from storms. They have a tariff (*statutum*) as to how much farmers shall give of their crops, and they call it their 'canon.' There are many people who never pay their tithes to the Church of their own accord, and never give alms to widows and orphans or the other poor; and no matter how often such things are preached and published to them, no matter how urgently they are exhorted, they still refuse. But what they call the 'canon' they pay to those who they think protect them from storms, without any preaching, admonition, or exhortation—strictly of their own accord, the Devil prompting, of course."

201 [2] *Karoli Magni capitularia,* 28, *Synodus Francofurtensis,* June 25, *anno Christi DCCXCIV* (*Monumenta Germaniae historica, Legum,* Vol. I, p. 76): ". . . and every man shall pay the legal tithe to the Church out of his property; for we learned of experience in the year of the great famine that abundant harvests came to naught because devoured by devils, and voices were heard in upbraiding." One of these wicked demons, who was possessing a maiden, was exorcized on relics of St. Marcellinus and St. Peter, and gave a clear explanation of the trouble: "I am," he said, "a satellite and disciple of Satan and was for a long time door-man in Hell. But for some years past, along with eleven companions, I have been ravag-

202. In the Middle Ages and the centuries following there was a veritable deluge of accusations against sorcerers for stirring up storms and destroying harvests. Humanity lived in terror of the Devil for generation after generation. Whenever people spoke of him, they seemed to go out of their heads, and, as might be expected of raving lunatics, spread death and ruin recklessly about.

203. The *Malleus maleficarum* (*Hammer for Witches*) of Sprenger and Krämer gives a good summary of the doctrine prevailing in the fifteenth century, though it was also the doctrine of periods earlier and later:

"That demons and their disciples can work such enchantments on lightning and hail, having received power therefor of God, and namely through His authorization of devils or their disciples, is attested by Holy Writ, Job 1 and 2 . . . whereof St. Thomas in a note on Job writes as follows:[a] 'We must confess that, God permitting, demons may effect disturbances in the air, raise storms, and cause fire to fall from the sky. Though corporeal nature in assuming its forms does not obey the commands of angels, whether good or bad, but only God the Creator, nevertheless, as regards local motion, [corporeal] nature is susceptible of obedience to spiritual nature, as may be seen in human beings, who, by sole power of the will, which is subjective in the soul, are able to move their members to the end of performing desired actions. Therefore motion—which, by its nature, not only good but also wicked angels can effect—is alone possible, save it be forbidden of God.'"[b] The disquisition on

ing this kingdom of France. Grain and wine, and all the other fruits which come of the Earth for the use of mankind, we have destroyed as we were bidden." This intelligent demon expatiates at length on what was back of it all. The devastation was, he said, "due to the wickedness of this people and the many iniquities of its rulers." And, the tongue falling where the tooth scratched, he did not forget the tithes: *"Rari sunt qui fideliter ac devote decimas dent." Cf.* Eginhard, *Historia translationis sanctorum Christi martyrum Marcellini et Petri,* V, 50 (*Opera,* Vol. II, pp. 284-86; Wendell, pp. 66-67).

203 [a] [*In librum beati Job expositio,* I, *lectio* 4 (*Opera,* 1570 ed., Vol. III, p. 3, 2C).]

203 [b] [So Pareto. Summers: "Therefore, whatever can be accomplished by mere local motion, this not only good but also bad spirits can by their natural power accomplish, unless God should forbid it."—A. L.]

the power of demons runs on and finally the authors of the *Malleus* give an example: "In [Nider's] *Formicarius,* [V, 4, f. R2], we are told of a man who was seized by a judge and questioned touching his manner of procedure in raising storms and whether it were an easy matter to do that. He answered: 'It is easy enough to make it hail, but we cannot inflict damage at will because of the surveillance of good angels.' And he added: 'We can harm only those who are without succour of God. Those who take care to carry the sign of the Cross we cannot harm. Our procedure is as follows: First in the field [in question] we pray, by a magic formula, to the Prince of all the demons to send us one of his servants to smite whither we point. The demon comes. Thereupon at a cross-roads we sacrifice a black fowl to him, tossing it high in the air. The demon takes it and obeys. He brings on a storm and hurls hail-stones and lightning-bolts, but not always on the spots we have designated, but whither God permits.' " [1] The writer continues with other stories as plausible as they are marvellous. We will touch briefly here on just one of them which is told by another writer.

The daughters of witches often have the powers their mothers have.[2] "Hence it may happen and has been known to happen . . . that a girl under the age of puberty, eight or ten years old, has produced hail and tempests." And the author gives an example (Summers, p. 144): "In Swabia a peasant with his daughter, hardly eight years old, was once looking at the grain in the fields. And considering the drought, and sorrowful, he wished for rain, saying: 'Alas, when is it going to rain?' The child, hearing her father's words, said in the simpleness of her soul: 'Father, if you would have rain, I will make it rain right soon!' And the father: 'How in the world can you make it rain?' 'Certainly I can, and not only can I make it rain: I can also make it hail and storm.' 'And who taught

203 [1] *Pars* II, *quaestio* I, *cap.* XV (Summers, pp. 147-48): "As to the manner in which sorcerers customarily raise tempests and hail-storms and hurl thunderbolts at human beings and cattle."

203 [2] *Ibid., Pars* II, *quaestio* I, *cap.* XIII (Summers, pp. 140-44): "As to the manner in which midwives who are witches do still greater harm, either killing children or pledging them to the Devil by enchantments."

you that?' 'Mama, but she told me not to tell anyone!' " The conversation continues; and finally "the father led his daughter to a brook. 'Make it rain,' he said, 'but only on our field.' The girl then put her hand into the water, and in the name of her master, according to her mother's teaching, stirred it about. And lo! the rain fell, and only upon her father's field! Seeing which her father said: 'Make it hail, but only upon one of our fields.' When the girl did that too, the father was convinced from what he had seen, and reported his wife to the judge. She was seized, convicted, and burned; and her daughter, baptized anew and consecrated to God, no longer had powers to work her art."

Though Del Rio quotes the *Malleus,* and another authority still, he tells the story somewhat differently, especially as to the way in which the rain was caused. Here we catch these legends in process of formation. Probably not all of this story was invented. Some such incident occurs. It is then amplified, commented upon, explained, and from it, as from a little seed, there comes an abundant harvest of fantastic and grotesque fiction.[3]

204. De Rio gives a long list of highly reputable writers who maintain that sorcerers can produce hail and storms; and whose names,

203 [3] Del Rio, *Disquisitiones magicae,* II, 11 (Louvain, Vol. I, p. 155; Cologne, p. 139): *"Recentiora exempla nuperi scriptores protulerunt: Addam duo, unum lepidum* [He calls "amusing" a story that ends in the death of two women at the stake!] *horrendum alterum. In ditione Trevirensi rusticus fuit qui cum filiola sua octenni* caules plantabat in horto. Filiolam forte collaudavit, quod apte hoc munus obiret. *Illa sexu et aetate garrula se nosse alia facere magis stupenda iactat. Pater quid id foret sciscitatur: 'Secede paullum,' inquit, 'et in quam voles horti partem subitum imbrem dabo.' Miratus ille: 'Age, secedam,' ait.* Quo recedente, scrobem puella fodit, in eam de pedibus (ut cum Hebraeis loquar pudentius) aquam fundit, eamque bacillo turbidat, nescio quid submurmurans. *Et ecce tibi subito pluviam de nubibus in conditum locum. 'Quis,' inquit obstupefactus pater 'te hoc docuit?' 'Mater,' respondet, 'huius et aliorum similium peritissima.' Zelo incitatus agricola post paucos dies,* invitatum se ad nuptias simulans, uxorem cum gnata festive nuptiali modo exornatas in carrum imponit, in vicinum oppidum devehit, et iudici tradit maleficii crimen supplicio expiaturas. *Hoc mihi fide dignissimorum virorum narratio suggessit. Ubi notandus modus scrobiculam faciendi et quod in eam ieceris bacillo confutandi."* Just for a comparison, I quote the passage in the *Malleus* which tells how the rain was obtained (Summers, p. 144): *"Tunc pater puellam per manum ad torrentem deduxit. 'Fac,' inquit, 'sed tantummodo super agrum nostrum.' Tunc puella manum in aquam misit et in nomine sui magistri iuxta doc-*

supplemented by the authority of Scripture and by practical instances attested by people worthy of all credence, are surely calculated to vanquish the most obstinate incredulity![1]

205. Godelmann imparts various ways in which witches, schooled

trinam matris movit. Et ecce tantummodo pluvia agrum illum perfudit. Quod cernens pater, 'Fac,' inquit, 'et grandinem, sed tantummodo super unum ex agris nostris,' " and so on.

The other example reported by Del Rio is a story taken from Pontano, of a city besieged by the King of Naples, which ran short of water and obtained it by rains provoked by magic and sacrilege. Del Rio may have had before him other passages from the *Formicarius* or the *Malleus:* for example, as regards the latter, the incident recounted in *Pars* II, *quaestio* I, *cap.* III (Summers, pp. 104, 107): "As to the manner in which they [witches] are transferred physically from one place to another." A witch had not been invited to a wedding banquet. "Enraged and thinking to avenge herself, she conjured up the Devil, stated her grievance and asked him to be good enough to make a hail-storm and scatter the company at the dance. Consenting, he lifted her up and in full view of certain shepherds bore her through the air to [the top of] a hill near the town. As she afterwards confessed, there was no water there for pouring into her pit—a way they have, as will be seen, when they are getting hail. So she made a little hole and filled it with her urine in place of water, and stirred it with her finger, as her custom was, the Devil looking on. And straightway the Devil, raising the liquid high in the air, sent a violent storm with hail-stones, just upon the party at the dance and the people in the town. The guests were scattered. They were still talking together as to the cause of what had happened when the witch came home. That aroused their suspicions. But when the shepherds told what they had seen, the suspicion which had been strong became violent. [We laugh nowadays at such idiocy; but the sentiments it expresses have been the cause of untold sufferings to mankind, and countless deaths.] The woman was arrested and confessed that she had done those things for cause—probably because she had not been invited to the party. Then she was burned, in view also of many other acts of witchcraft [Probably as well authenticated as the above!] of which she had been guilty." Del Rio got this story from the *Daemonolatreia* of Remy, I, 25 (Lyons, pp. 158-62; Ashwin, pp. 74-75).

204 [1] *Op. cit.,* V, 16 (Vol. III, p. 99). In II, 11 (Louvain, Vol. I, pp. 152-54; Cologne, p. 136) he writes: "Thirdly . . . sorcerers can abate tempests, cause lightning and thunder, provoke hail-storms and rain-storms and like weather, and they can send them upon such lands as they choose." He rebukes people who do not believe such things and claim that only God can do them: "To be sure, God does do them as the prime, independent, universal efficient-cause; but his creatures do them as particular, dependent, and secondary efficient-causes. Wherefore the common opinion of theologians and jurists, which I stated as my thesis, is to be followed. It is proved, firstly, by Most Holy Scripture: for there Satan causes fire to fall from Heaven and destroy the servants and the flocks of Job; and he also causes violent winds. . . . Most Holy Scripture expressly states that the hail whereby the Egyptians were punished was sent by wicked angels. . . . Why, finally, are the demons so many times called by the Apostle 'princes of the air'? Far rather because of their great power over the air! The same is confirmed [secondly] not only by

of the Devil, can produce hail:[1] "They toss pieces of flint behind them, towards the west. Sometimes they throw sand from river-bottoms into the air. Often they dip a broom in water and make a sprinkling motion at the sky. Or they dig a little ditch, fill it with water or urine, and stir the liquid with a finger. Then again they boil hog-bristles in kettles, or set boards or timbers criss-cross on a river-bank. . . . Thus they make believe that the hail comes through their doings, whereas really it comes of the Devil, God permitting."

206. Weier denies that witches have any powers, but he concedes that the Devil has, God permitting. Such the interpretation he devised in striving to save the unhappy women who were being sent to the stake. He may have taken it seriously himself, and such deviousness may have been required in an age when law and custom cramped free expression of thought.[1] Few people went as far as

the ancient Law of the XII Tables . . . but by the decrees of Emperors and Popes. It is confirmed [thirdly] by all those Fathers whom I have quoted. . . . And fourthly, it is proved by history and by examples. Herodotus bears witness to the abating of winds and a storm by magicians at the time of Xerxes. [Not a word about the qualifying remarks of Herodotus (§ 193).] . . . Of the Finns and Lapps Olaus [Magnus] writes as follows [*Historia de gentibus septentrionalibus,* III, 16, p. 119 (Streater, III, 15, p. 47)]: "In olden times they put the winds up for sale to merchants, offering three knots on which a spell had been cast: untying the first they [the merchants] would get gentle breezes; untying the second, stronger winds, and the third, a whole gale.' " Just earlier, II, 9 (Louvain, Vol. I, p. 137; Cologne, p. 124), Del Rio tells the story of "Eric, King of the Goths, who could get a fair wind from any direction in which he turned his fur cap: and for that reason he was nicknamed 'Windy-Cap' (*Pileus Ventosus*)" [Magnus, *Ibid.,* III, 15, p. 116; Streater, III, 13, p. 45. In reading these passages in Magnus, Streater arbitrarily changes *"ventum venalem"* to *"vinum venalem,"* which gives a different cast to the anecdote, the game with the knots remaining a mere trick or curiosity.—A. L.]

205 [1] *De magis, veneficis, et lamiis,* II, 6, 21.

206 [1] *Histoires, disputes et discours,* III, 16 (Vol. I, pp. 357-58): "Furthermore, those poor old women are slyly tricked by the Devil. For as soon as he has seen and foreseen some tempest or change in the weather by watching the movements of the elements and the course of nature—a thing he does sooner and more readily than any human being could; or as soon as he has understood that someone is to receive some plague by the hidden will of God, whereof in such respects he is the executor, he besets the minds of those silly women, and fills them with all sorts of insane ideas, and shows them this or that opportunity for getting even with their enemies, as by clouding the sky, stirring up tempests, and making it hail." That rascal of a Bodin, however, has serious objections to Weier's theory: *De la démonomanie,* p. 235b: "As to what Wier says to the effect that witches cannot cause hail or thunder of themselves, I agree, and the same for killing people or

Tartarotti, who ascribes the phenomena of witchcraft to natural forces and leaves His High-and-Mightiness, the Devil, the mere credit of foreseeing them, so following a doctrine that had been current for centuries in the Christian Church (§ 213).[2] But he too appeals to the authority of Scripture, and judiciously balms the Holy Inquisition when he writes: "And here I could not, without blemish of grave injustice, dispense with paying a deserved tribute to the most revered and level-headed Tribunal of the Holy Inquisition of Rome, which on these matters is guided by such moderation and caution as unmistakably to manifest the spirit and motive by which it is inspired, regardless of the unjust insults and the groundless complaints that heretics keep hurling at it." [3]

207. In our time we may say what we please about witches, but not about sex; and just as in days gone by, whether out of conviction or from a desire to please people who in this connection can only be called ignorant fanatics, governments persecuted individuals who discussed the Bible freely, so in our day, and for similar reasons, governments prosecute individuals who discuss sex without due caution. Lucretius was free to speak his mind both on the religion of the gods and on the religion of sex.

208. In those days the heretic was called a criminal. So is the sex heretic today. To read what Bodin wrote of Weier is to read what

causing them to die by means of wax images and incantations. But what cannot be denied, and Wier himself agrees on that score, is that Sathan causes people, animals, and crops to die, if God does not keep him from it, and that that he does by way of the sacrifices, 'wishes,' and prayers of sorcerers, with the just permission of God, who uses His enemies to get even with His enemies." Bodin certainly knew a great deal about other people's business!

206 [2] *Del congresso notturno delle lammie,* II, 16, 7 (pp. 189-90): "There seems to be somewhat more persuasive force in the fact that these individuals boast, for example, of raising tempests or of causing the death of this person or that, and that there are trustworthy witnesses to the fact that things afterwards take place exactly as they predict. But that too can easily be explained on the assumption of illusion, by saying that the Devil, in order to give his followers a high opinion of his powers, loves to ascribe natural happenings to himself, foresees them, and incites witches to produce them; and thereupon they occur, not of his power, much less by the power of the witches, but because they were destined to occur according to natural course of nature."

206 [3] *Ibid.,* I, 10, 1 (p. 63).

Senator Bérenger and his brethren say today of people whose minds are not as narrow as their own.[1]

209. There is another analogy that sheds light on the nature of non-logical behaviour. As we noted in § 199, interpretations had to adapt themselves to popular prejudices, and so did law and penal procedure. The records of many many trials for witchcraft show that what happens is this: public rumour first designates the witch; public frenzy then assails and persecutes her; finally public authority is compelled to interfere. Here is one example among the countless that might be mentioned: In the year 1546, in the barony of Viry, a certain Marguerite Moral, wife of Jean Girard, complains to the châtelain of the barony that certain women have attacked and beaten her, at the same time calling her a witch (*hyrige*). The châtelain proceeds against the defendants and learns from them that Marguerite is accused of having caused the deaths of certain children. Exactly as would be done today, he investigates in order to ascertain whether the charges made against Marguerite are true. At first the plaintiff, she is now the defendant! The charge next extends to Marguerite's husband. Many witnesses testify that the children died, presumably through practices by Marguerite. She and her husband are put to torture and of course say whatever they are asked to say. They confess to intercourse with the Devil, just as they would have confessed to administering poison, or anything else. Both accordingly are condemned to the stake and burned.[1]

208 [1] *Op. cit.*, p. 240b: "So then we are asked to condemn all antiquity as ignorant and mistaken, cancel all history, and draw a line through all laws human and divine as false, illusory, and based on false principles; and in place of all that set up the judgment of this man Wier and a few other sorcerers who are working hand in hand to establish and consolidate the empire of Sathan, as Wier cannot deny, if he has not lost all shame."

209 [1] Duval, *Procès des sorciers à Viry*, pp. 88-108: "Marguerite [Moral] . . . files complaint and criminal action before us, Claude Dupuis, châtelain of this barony, in due and proper form, against . . . [names of three women] alleging that on the twenty-ninth day of April at noontime, the said Marguerite coming from the fields from weeding her beans and being in her yard gathering greens, the said defendants came up each carrying a stick of wood in hand, and saying such words as 'Deceitful witch, you have got to go to Viry'; whereupon they began to beat the said plaintiff on her body with all their might and also tied her arms with a rope so that she could not move." The defendants are questioned and

210. In this instance interpretations play a very minor rôle. In the forefront stands the notion that death can be inflicted in some mysterious manner; and that concept works primarily on the minds of the plain people. The judges accept it too; but had it not been for the other notion that the truth can be ascertained by torture, one could not be sure what the outcome of the trial would have been. In a word, it is clearly apparent that public opinion is influencing the judges and that except for it they would have taken no action. So in our day governments have never taken action against sex heresy until after persistent agitation by that pestilential breed of individuals that forgathers in societies for the promotion of morality and conventions for the suppression of pornography; and our modern legislators, like our modern judges, for the most part accede

". . . declare that they know nothing, that they did in no way beat the said Marguerite, and would not have thought of doing so. They confess nevertheless that they said and called her a witch to her face, because many others so called her and almost everybody who knew her, especially since, after the death of the child of Pierre Testu, otherwise known as Grangier, the said Marguerite had fled, because people said that she had killed it." The trial continues, the châtelain hearing several witnesses. Some of them know nothing. Others testify corroborating Marguerite's charge that she had been beaten. But the châtelain and his jury are not convinced. And since the defendants accused of the assault and battery "have confessed that they said and rebuked the said Marguerite that she was a witch, which is a very serious charge," they order an investigation by criminal procedure (torture) to ascertain what truth there may be in it. So Marguerite the plaintiff becomes Marguerite the defendant. Several witnesses are heard. They mention a number of children who have died, they allege, because of Marguerite. One of them testifies that she had a quarrel with a certain woman named Andrée "and a little after one of her children died and also a child of her brother, Claude, under mysterious circumstances." In our day, there would have been an inquest to determine whether any poison had been administered. In those days it was not considered necessary that a material cause of death be shown. "Before the said children fell ill, the said Marguerite walked into the house of the witness, took a seat in the middle between the cradles of the said children, asking the said Andrée if she had a place where she could leave certain linen. . . . The said Andrée refusing, the said Marguerite was angry and wroth, and immediately afterwards the said children fell ill and died"—and the witness believed for that reason that they had been killed by Marguerite. Other evidence of the same kind is brought against Marguerite. One witness avers "that that was her fame and reputation in the village of Vers and everywhere where she was known, and that many people had said and charged to her face that she was a witch without her making any objection or taking any [legal] action."

reluctantly, and do their best to mitigate at least the hysterical frenzies of the sex-reformers.

211. Witches were being burned as late as the eighteenth century, and in doing such things governments and the Church were abetting popular superstition and so contributed to strengthening it; but they certainly were not the authors of it. Far from enforcing belief in such non-logical actions in the beginning, the Church found that belief forced upon it and sought to find logical interpretations for it. Only later did the Church altogether accept it, with the correctives supplied by its interpretations.

A writer who cannot be suspected of partiality to the Catholic Church says: "The slight attention paid in the thirteenth century by the Church to a crime so abhorrent as sorcery is proved by the fact that when the Inquisition was organized it was for a considerable time restrained from jurisdiction over this class of offences. In 1248 the Council of Valence, while prescribing to inquisitors the course to be pursued with heretics, directs sorcerers to be delivered to the bishops, to be imprisoned or otherwise punished [Labbe, Vol. XIV, p. 115, *cap.* 12]. In various councils, moreover, during the next sixty years the matter is alluded to, showing that it was constantly becoming an object of increased solicitude, but the penalty threatened is only excommunication. In that of Trèves, for instance, in 1310, which is very full in its description of the forbidden arts [Labbe, Vol. XIV, pp. 1450-51, *cap.* 79-84], all parish priests are ordered to prohibit them; but the penalty proposed for disobedience is only withdrawal of the sacraments, to be followed, in case of continued obduracy, by excommunication and other remedies of the law administered by the Ordinaries; thus manifesting a leniency almost inexplicable. That the Church, indeed, was disposed to be more rational than the people is visible in a case occuring in 1279 at Ruffach, in Alsace, when a Dominican nun was accused of having baptized a waxen image after the fashion of those who desired either to destroy an enemy or to win a lover. The peasants carried her to

a field and would have burned her, had she not been rescued by the friars." [1]

212. People who see logical actions everywhere are therefore in error when they blame Catholic theology for the persecutions of witches. Such persecutions, incidentally, were as common among Protestants as among Catholics. Belief in magic belongs to all ages

211 [1] Lea, *History of the Inquisition,* Vol. III, pp. 433-34. Pertile is also of the same opinion. *Storia del diritto italiano,* Vol. V, pp. 447-48: "And the Church proceeded mildly, excommunicating practitioners of magic, subjecting them to canonical penances. . . . Nor did it abandon that system even later, when, in the thirteenth century, faith had been weakened by the reversion to paganism, and the spread of a neo-Manicheism in the sects of the Catharists ["Perfects"] and the Patarins, and older superstitions were coming to life again stronger than ever." But at this point the author, a man writing in our day, feels called upon to pass judgment on beliefs that he terms superstitious: "They were in truth very wicked notions not only involving belief in commerce with the Devil, in compacts with him in exchange for one's soul, and in powers obtained from him by calling on his name, consecrating oneself to him, worshipping him; but also involving something much worse—abuse of most sacred things." What this good soul calls "very wicked," others regard as objectively ridiculous and subjectively pathological! But such the power of certain sentiments! Here we have a man who is not a churchman writing towards the end of the nineteenth century, but who seemingly takes pacts with the Devil seriously, and calls them "wicked"; whereas many modern theologians are at least very sceptical, as witness the *Dictionnaire encyclopédique de la théologie catholique, s.v. Magie* (Wetzer, *s.v. Zauberei*): "The main question . . . is to determine whether demons can enter the special service of a human being. That question cannot be answered in the negative *a priori*. . . . Then a secondary question arises as to the manner in which the relationship of service between demon and human being is established. Popular belief answers [both questions] by assuming that the Devil can be 'conjured up' and thereby constrained to serve the human being. But that commonplace fancy cannot have our assent. . . . The stories that were so readily abused in a day gone by in that connexion . . . undoubtedly originated in the boastings or in the unhealthy imaginations of self-styled possessors of powers, and not one of them deserves the slightest credence.

"Another view, which was held by many theologians and played a part of some importance in the days of the prosecutions for witchcraft, held that the human being can strike a compact with the Devil and so bind him to certain services. The negotiation of the contract was regarded now as a literal objective procedure, now as subjective but no less literal, now as implicit, now as explicit. As for the objective reality, the contract may be thought of as made either by a person in possession of his right mind or by one in the sickly condition of the ecstatic. . . . As for direct commerce with the Devil . . . the notion is so vulgar that we may be excused from dwelling on it longer." The writer of this article recognizes that there may be such a compact in the ecstatic condition: "But it is readily apparent that such a pact could

and all peoples. Interpretations are the servants, not the masters, of the thing.[1]

Other writers, such as Michelet in his *Sorcière,* find the cause of the witchcraft superstition in feudalism. But where was feudalism when the Roman Laws of the XII Tables were penalizing people who laid curses on harvests? When people were believing in the witches of Thessaly? When Apuleius was being accused of using love-philtres to win the favour of the lady he married—not to mention countless other cases? The truth is, Michelet's interpretation is an exact counterpart of the Christian, except that the "great enemy" has changed his name: he used to be Satan; now he is Feudalism!

213. But to go back to the Christian interpretations. Even granting that the Devil had no power to produce storms, there was no adequate reason for eliminating him altogether from such phenomena on that account. He could be brought in in another way by saying that he could foresee storms and therefore predict them. That explanation has been current from the earliest days of Christianity down to our own. The idea, in brief, is that devils have aerial bodies, that they can travel with great speed, that being immortal they have had long experience and can therefore know and predict many

not be a contract in any ordinary sense. . . . Furthermore the alleged pact may be something altogether subjective, as is the case with the lunatics known as demonomaniacs. In such cases the patient imagines he has concluded a contract with the Devil, but there is absolutely nothing in reality corresponding to his illusion. . . . As for ways and means of binding a demon to the assistance of a human being in the exercise of magical powers, we assert that none such exist, and that if the demon enters the service of a person, he does so of his own accord under the lure of the elective affinity between his wickedness and the wickedness of the person. . . . The Devil, moreover, is not above the laws of nature. . . . He can do nothing that is not naturally possible in itself."

212 [1] Cauzons, *La magie et la sorcellerie en France,* Vol. III, pp. 63-65: "Of all Catholic publications, Del Rio's book was responsible for more victims than any other. . . . I say Catholic, for the Protestants had a generous share in prosecutions for witchcraft. If it might be hard to prove that they burned more witches than the Catholics, it would be just as hard to prove that they burned fewer. The certain thing is that persecution of unfortunates called witches raged violently in Germany and England, and more so than in Spain and Italy and even than in France, where witch-burnings were frequent, especially at certain times and in certain localities."

things in addition to predicting the things they are going to do themselves.[1]

We still do not know why it is that certain rites happen to attract devils. Never fear! There will always be as many explanations as are asked for! St. Augustine imparts that devils are attracted to physical bodies "not as animals are by food, but as spirits are by signs compatible with their pleasure or by various sorts of stones, plants, woods, animals, chants, rites." And, with all his weighty authority, St. Thomas agrees that this is so.[2]

214. From the very earliest days of demoniacal interpretation one very grave question kept coming up: Could magic practised with evil intent be met with magic practised with good intent? Constantine would permit such things, but Godefroi, in his commentary, disapproves of them, on the ground that evil things are not to be done in order to achieve legitimate purposes. Such also has been the doctrine of the Church.[1]

213 [1] St. Augustine, *De divinatione daemonum* (*Opera,* Vol. VI, p. 581), III, 7: "Demons are of such nature that with the senses of their aerial bodies they easily outstrip the senses of terrestrial bodies, and in view of the superior mobility of the same aerial bodies they incomparably excel in speed, let alone the legs of any human being or animal whatsoever, the very flight of birds. Endowed with those two things pertaining to the aerial body, to wit, sharpness of sense and swiftness of motion, they tell and foretell many things that are known to them before they are perceived by humans in view of the sluggishness of human senses. In view also of the long space of time over which their lives extend, demons acquire far greater experience than can be acquired in the short life of a human being." *Ibid.,* V, 9: "It should also be pointed out, while we are on this matter of foresight in demons, that many times they merely predict things that they are going to do themselves." Just as the physician foretells from external symptoms what the course of a disease is to be, "so in the trends and situations in the atmosphere that are known to him but unknown to us, the demon foresees approaching storms." Tertullian, *Apologeticus,* XXII, 10: "From living in the air close to the stars and in intercourse with the clouds, they have ways of knowing celestial forecasts (*habent . . . caelestes sapere paraturas*), so that they predict rains that they already know about."

213 [2] St. Augustine, *De civitate Dei,* XXI, 6, 1; St. Thomas Aquinas, *Summa theologiae,* I[a], *qu.* 115, *art.* 5 (*Opera,* Vol. V, pp. 545-46: *Utrum corpora caelestia possint imprimere in ipsos daemones*).

214 [1] *Codex Theodosianus,* IX, 16, 3 (Haenel, p. 868): "To what extent enchantments are prohibited or permitted: The Law of Constantine the Great: Deservedly to be dealt with and punished by the severest laws is the science of those individuals who, armed with art of magic, are found to have worked (*moliti, i.e., moliti esse*) to the hurt of human beings or to have turned chaste minds to lechery. Not action-

215. For that matter, there are plenty of legitimate recourses, quite apart from exorcisms and spiritual exercises, and all demonologists go into them at length. Sprenger and Krämer, for instance, give the following instructions (Summers, p. 190): "Against hail and storms the following remedy may be used in addition to the sign of the cross just mentioned. Throw three hail-stones into the fire, pronouncing the name of the Most Holy Trinity. Follow with the Lord's Prayer and the Angelic Salutation repeated two or three times. Then follow with *In principio erat Verbum* from the Gospel according to St. John, making the sign of the cross against the storm in all directions, backwards, forwards, and to the cardinal points; then, to conclude, repeat three times *Verbum caro factum est,* and say three times, 'In the name of this Gospel, let this storm cease.' Whereupon it subsides forthwith—provided it has been caused by witchcraft. These are held to be very sound practices and above suspicion [of heresy]. But if one throw hail-stones into the fire without invoking the divine Name, the action is held superstitious. If one should ask, 'Cannot the storm be quelled without hail-stones?' the answer is, 'Certainly, by using holy words in greater profusion.' In throwing the hail-stones into the fire the idea is merely to annoy the Devil while one is getting ready to undo his work by calling on the name of the Most Holy Trinity. It is better to throw them into fire than into water; for the sooner they melt, the sooner is his work undone. Nevertheless the outcome is all in the hands of the Divine Will." [1] More gibberish follows on the ways in which a

able by any prosecution, however, are remedies sought for human bodies, nor those rites which are practised (*adhibita suffragia*) in good intent in rural districts to allay fear of storms for the ripened vintage or damage from stoning by falling hail, such rites injuring no one in health or reputation and, if successful (*quorum actus*), serving only to prevent ruination of the gifts of God (*divina munera*) and the labours of men." The same law appears in the *Codex Justiniani,* IX, 18, 4 (*Corpus iuris civilis,* Vol. II, p. 595; Scott, Vol. XV, p. 32). This enactment was abrogated by the Emperor Leo, *Novellae,* 65, *Ad Stylianum, De incantatorum poena* (*Corpus iuris civilis accademicum Parisiense,* p. 1151; Scott, Vol. XVII, p. 262).

215 [1] *Malleus maleficarum, Pars* II, *quaestio* 2, *cap.* 7 (Summers, p. 188): "As to remedies against hail and lightning, and for spells cast upon cattle." The *Malleus* mentions other remedies besides. On being asked by a judge (Summers, p. 190) "whether hail-storms caused by witchcraft could be abated in any way," a witch

hail-storm can be caused or prevented. Del Rio lists numberless remedies, natural and supernatural, legitimate and illegitimate, whereby the mischief of witchcraft can be averted.

216. Here we can stop, not for lack of material, for of that there is enough to fill a good-sized library; but because what we have so far said suffices to show the essential traits of the family of facts that we have been examining, just as a certain number of plants suffice to show the characteristics of the family of Papilionaceae.[1]

217. The study just completed clearly shows the presence of the following characteristics in the family of facts considered (§ 514[4]):

1. There is a non-logical nucleus containing, in simple compound, certain acts, certain words, that have specified effects, such as hurricanes or destruction of crops.

2. From this nucleus a number of branches, a number of logical interpretations, radiate. It is impossible not to observe that in general interpretations are devised for no other reason than to account for the fact that storms can be raised or quelled, crops protected or destroyed. Only in cases altogether exceptional is the opposite observable—the case, that is, where the logical theory leads to the belief in the fact. Interpretations are not always clearly distinguished from one another; they often interlock, so that the person accepting them may not himself know exactly what share is to be credited to each.

replied: "They can, and in the following manner: 'O hail, O winds, I abjure you by the five wounds of Christ, and by the three nails that pierced His hands and feet, and by the four Holy Evangelists, Matthew, Mark, Luke, and John, that ye melt into water ere ye fall.' " The *Malleus* also mentions the time-honoured custom of ringing bells. In our time bells have been replaced by "hail-cannon," with quite as good results.

216 [1] We shall have to prosecute many other investigations of this kind; we shall, that is, be called upon to examine many families of facts in order to find in each the elements that are constant and the elements that are variable, and then to classify them, dividing them off into orders, classes, genera, species, precisely as the botanist does. In this case I have thought it wise to set before the reader by way of illustration by no means a large, but at the same time a fairly appreciable, fraction of the facts that I have examined in arriving at the conclusions stated. Lack of space will prevent me from continuing to do that for all of the other investigations we shall have to make. The reader must bear in mind that I mention in these volumes only a small, oftentimes a very very small, portion of the evidence I have considered in making the inductions that I present.

3. Logical interpretations assume the forms that are most generally prevalent in the ages in which they are evolved. They are comparable to the styles of costume worn by people in the periods corresponding.

4. There is no direct evolution, such as is represented in Figure 5. Evolution takes the form shown in Figure 6. The pure non-logical

Figure 5

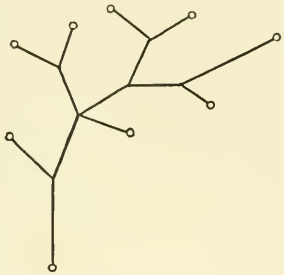

Figure 6

action has not been transmuted into an action of logical form. It is carried along with the other actions that are derived from it. It is impossible to determine just how the transformation has taken place —for example, trying to establish that from the mere association of acts and facts (fetishism) people went on to a theological interpretation, then to a metaphysical interpretation, then to a positive interpretation. There is no such succession in time. Interpretations that might be called fetishistic, magical, experimental, or pseudo-experimental are moreover often mixed in together in such a way that they cannot be separated, and very probably the individual who accepts them would not be able to separate them either. He knows that certain acts must have certain consequences, and he does not care to go beyond that and see how it all comes about.

5. In the long run, to be sure, degrees of enlightenment in people generally have their influence on the non-logical conduct in question, but there is no constant correlation in that respect. The Romans burned neither witches nor magicians, yet they were undoubtedly inferior in scientific development to the Italians, the French, the Germans, and so on, of the seventeenth century, who killed sorcerers

in large numbers. So, also, towards the end of the twelfth century and the beginning of the thirteenth, those unfortunates were not persecuted at all, though beyond all doubt that age was far inferior to the seventeenth century in intellectual and scientific development.

6. Belief in the non-logical conduct was not imposed by logical device of the Church, of governments, or of anybody else. It was the non-logical conduct that forced acceptance of the logical theories as explanations of itself. That does not mean that such theories may not in their turn have stimulated the belief in the non-logical conduct, and even may have given rise to it in places where it had not existed previously. This last induction puts us in the way of understanding how other things of the kind may have come about and how we may be mistaken when, knowing non-logical actions only under their logical coating, we give the logical aspect an importance that it does not really possess.

218. All the many cases we have examined in connexion with storms had something in common, something constant: the feeling that there are certain means by which storms can be influenced. There is besides a differing, a variable, element—the means themselves, and the reasons given for using them. The first element is evidently the more important; so long as it is there, people experience little or no difficulty in finding the other. It might well be, therefore, that as regards determining the form of society, elements similar to the constant element just discovered are of greater importance than the other, the variable elements. For the present we cannot decide the matter. Induction is simply pointing out to us one road that we shall find it advisable to explore.

As often happens with the inductive method, we have found not only the thing we were looking for, but another thing that we were not in the least expecting. We set out to discover how non-logical actions come to assume logical forms, and by going thoroughly into a special case, we have seen how that happens. But we have seen, in addition, that such phenomena have an element which is constant, or almost constant, and another element which is very variable. Now science looks for constant elements in phenomena in order to get at

uniformities. We shall therefore have to make a special study of these different elements—and that we shall do in chapters following (§ 182[1]).

219. Meanwhile, other inductions loom before us, not yet as assertions, since they have been derived from too few facts, but rather as propositions that we must verify as we extend the scope of our researches:

1. If for a moment we consider the facts strictly from the logico-experimental standpoint, the policy of the Church with reference to magic is simply insane, and all those stories of devils are ridiculously childish. That much granted, there are people who infer from the premises that the religion of the Church is equally unsound and is therefore detrimental to society. Can we accept that inference? It is to be noted, in the first place, that the argument avails not only for Catholicism but for all religions, indeed for all systems of metaphysics—for everything, in fact, that is not logico-experimental science. It is impossible to concur in that opinion and regard as absurd the greater part of the lives of all human societies that have existed down to our time. Furthermore, if everything that is not logical is detrimental to society and therefore to the individual also, we ought not to find instances such as we have observed among animals (and are going to observe among human beings) in which certain non-logical behaviour proves beneficial, and even to a very high degree. Since the inferences are wrong, the reasoning must also be wrong. Where is the error?

The complete syllogisms would be: *a.* Any doctrine of which a part is absurd is absurd; that part of the Church's doctrine which deals with magic is absurd; therefore, *etc.* *b.* Any doctrine that is not logico-experimental is detrimental to society; the doctrine of the Church is not logico-experimental; therefore, *etc.* The propositions that probably falsify these syllogisms are: *a.* Any doctrine of which a part is absurd is absurd. *b.* Any doctrine that is not logico-experimental is detrimental to society. We must therefore examine those propositions closely and see whether they do, or do not, correspond to the facts. But in order to do that, we must

first have a theory of doctrines and of their influence on individuals and society; and that is something that we are to attend to in the chapters next following (§ 14).

2. The questions just asked in connexion with doctrines also arise in connexion with individual human beings. If we consider the conduct of individuals from the logico-experimental standpoint, no name but "idiot" describes the man who wrote the absurdities with which Bodin stuffs his *Démonomanie*. And if we consider such conduct from the standpoint of the good or evil done to others, dictionaries supply only synonyms of "murderer" and "knave" for individuals who as a result of such idiocies have inflicted the cruelest sufferings upon many many human beings, and brought not a few of them to death.

But we at once observe that reasoning in that way we are extending to the whole what in reality applies only to the part. There are examples a-plenty to show that a man may be unbalanced in some things, level-headed in others; dishonest in some of his dealings, upright in others. From that conflict two errors arise, equivalent in origin, different in appearances. Both the following propositions are false—equally false: "Bodin has talked like a fool and done great harm to his fellow-men; therefore Bodin is an idiot and a rascal"; "Bodin was an intelligent and honest man; therefore the things he writes in his *Démonomanie* are sound and his conduct is exemplary." We see by that that we cannot judge the logico-experimental value and the utility of a doctrine by a facile consideration of the reputability of its author; that we must, instead, travel the rough and thorny path of studying it directly on the facts. And there we are back again at the conclusion that will be reached by an examination of doctrines themselves (§§ 1434 f.). All that we shall go into thoroughly later on. For the moment let us continue looking over the general field of non-logical conduct.

220. Worthy of some attention is the logical form that the Romans gave to their relations with the gods. In general it is the form of a definite and unequivocal contract that is to be interpreted according to the rules of law. If we stopped at that, we should see in the fact

a mere manifestation of what has been called the legal-mindedness of the Romans. But similar facts are observable among all peoples. Even in our day the devout chambermaid who promises a few pennies to St. Anthony of Padua if he helps her to get back something she has lost is acting toward that saint exactly as the Romans acted towards their gods. What distinguishes the Romans, rather, is the wealth and precision of detail, the subordination of substance to form—in a word, the powerful cohesion of one act with other acts. And in that we glimpse a manifestation of the psychic state of the Romans.

221. The Athenian Plato takes no interest in these associations of ideas and facts which disincline people to separate facts logically. In the *Euthyphro* (17) he scorns the notion that sanctity can be regarded as the science of begging things of the gods.[1] For the Romans, and especially for Roman statesmen, the whole science of the relations of gods and men lay in just that. It was a difficult science. One had first to know to just what divinity to turn in a given emergency, and then to know its exact name. And since there might be doubts on such points, there were formulae for getting around the difficulty—for example, *"Jupiter Optime Maxime, sive quo alio nomine te appelari volueris"*—"Jupiter, Greatest and Best, or what ever you prefer to be called . . ."[2]

221 [1] Socrates speaking (Fowler, p. 55): "According to that definition, holiness would be the science of asking and giving." That, substantially, was the opinion of a great number of Greeks. We have already said that the difference between Athens and Rome lies more in the intensity of certain sentiments than in their substance.

221 [2] Macrobius, *Saturnalia,* II, 9: "It seems that all cities are protected by certain gods; and it was a secret custom of the Romans, unknown to many, that when they besieged an enemy city and thought they were on the point of conquering it, they 'called forth' its tutelary gods with a certain ritual. For otherwise they did not think it possible to take the city, or, had it been, they thought it impious to make captives of gods. For the same reason, the Romans were careful that the name of the patron god of Rome should remain secret, and even the Latin name of the city." Macrobius then gives a formula for addressing the gods of a besieged city and another for consecrating cities and armies after worshipping such gods. But he cautions that only dictators and generals-in-chief could use them effectively: "Dis, the Father, Veiovis, Manes, or by whatever other name it is proper to address thee . . ." The words of the formula had to be punctuated by specified acts: "When he says 'Earth,' he touches the earth with his hands. When he says 'Jove,' he raises his

222. Aulus Gellius, *Noctes Atticae,* II, 28, 2, remarks that no one knew what divinity to invoke in case of an earthquake—a most serious embarrassment. So "the ancient Romans, who in all the duties of life and especially in anything touching religious observance and the immortal gods were very scrupulous and circumspect, proclaimed public holidays whenever they experienced an earthquake or heard of one. But they refrained from naming the god, as their custom was, in whose honour the festivities were held in order that they might not bind the people to a mistaken rite by naming the wrong god."

223. When wine was offered to a divinity, one had to say, "Accept this wine *which I hold in my hands.*" These last words were added to avoid any possible misunderstanding, and the mistake in particular of offering the divinity by inadvertence all the wine in one's cellar.[1] "It is one of the principles of augural doctrine that imprecations and auspices of whatever kind have no value for those who, in starting out on an enterprise, declare they attach no importance to them; the which is one of the greatest bounties of divine gracious-

hands towards heaven. When he is acknowledging a vow, he touches his breast with his hands." Such things would be ridiculous if the idea were merely to make the gods understand. They are rational if words and gestures have an efficacy of their own. Virgil, *Aeneid,* II, v. 351: "The shrines and altars were deserted, for all the gods had gone away." And Servius annotates (Thilo-Hagen, Vol. I, p. 277): "Because, before the storming [of a city] the gods were 'called forth' by the enemy that sacrilege might be avoided. That is why the Romans would never let it be known under the tutelage of just what god the *Urbs* abided and the law of the pontiffs cautioned that the Roman gods should not be addressed by name lest they be tampered with (*exaugurari*). And on the Capitol there was a consecrated shield with the inscription: *Genio Urbis Romae sive mas sive foemina* (whether male or female). And the pontiffs prayed as follows: *'Jupiter Optime Maxime*—or whatever you prefer to be called; and he [Virgil] himself says, *Aeneid,* IV, vv. 576-77: 'Thee we follow, holiest of gods, whoever thou art.' "

223 [1] Arnobius, *Disputationes adversus gentes,* VII, 31 (Bryce-Campbell, p. 340). J. C. Orelli, the editor of Arnobius, annotates (Vol. II, p. 433): "In making an offering [to the gods] the ancients chose their words cautiously and exactly and always appended qualifications (*leges*) and conditions explicitly, lest they should bind themselves by some tacit obligation; and this is evident from not a few inscriptions." He gives an example.

ness." [2] All that seems ridiculous if one is disposed to argue the substance in logical terms. But it becomes rational if we premise certain associations of acts and ideas. If the sting of a scorpion is really to be avoided by pronouncing the number 2 (§ 182), is it not evident that when one comes upon an insect and would avoid its sting, one must first know exactly whether it is a scorpion or not, and then the number that has to be pronounced? If it is the act more than anything else that counts, obviously when one is offering wine to a divinity one must do exactly the right thing and not some other thing. In any event all such ratiocination, whatever its value, occurred *a posteriori* to justify conduct in itself non-logical.

224. Systems of divination in Rome and Athens differed no less than religions, and the differences lay in the same direction. Roman divination [1] was confined to "a simple question, always the same, and relating strictly to the present or to the immediate future. The question might be formulated thus: 'Do the gods favour, or not favour, the thing that the consultant is about to do, or which is about to be done under his auspices?' The question admits only of the alternatives 'yes' or 'no' and recognizes only positive or negative signs. . . . As for the methods of divination prescribed by the augural ritual, they were as simple and as few in number as possible. Observation of birds was the basis of it; and it would have remained the only source of auspices had not the prestige of the fulgural art of the Etruscans influenced the Romans to 'observe the sky' and even to attribute a higher significance to the mysterious phenomena of lightning. Official divination knew neither oracles, nor lots, nor the inspection of entrails. It refused to become involved in the discussion and appraisal of fortuitous signs, taking account of them only

223 [2] Pliny, *Historia naturalis,* XXVIII, 4 (2) (Bostock-Riley, Vol. V, p. 281). Cicero no longer understands these associations of ideas. In *De divinatione,* II, 36, 78, he says, speaking of Marcus Marcellus: "He used to say that whenever he was engaged on business of importance he made it his habit to travel in a covered litter, so as not to be interfered with by omens. That is very much like what we augurs do when we advise that all oxen about be ordered unyoked, in order to prevent 'marred omens' [by both oxen in a yoked pair dunging at the same time]."

224 [1] Bouché-Leclercq, *Histoire de la divination dans l'antiquité,* Vol. IV, p. 176.

as they occurred in the taking of auspices. With all the more reason it refrained from interpreting prodigies."

225. What the Romans could not find at home, they sought abroad in Greece and Etruria, where a freer imagination was creating new forms of divination. In the importance attached to the plain association of acts and ideas we must seek the explanation of one of the most extraordinary rules of Roman divination, the rule giving a counterfeit augury the same efficacy as a sign that had actually been observed. "He [the augur] could . . . rest content with the first sign, if it was favourable, or let unfavourable signs pass and wait for better ones. Then again, he could have the assistant augur 'renounce,' that is, 'announce,' that the expected birds were flying or singing in the manner desired—a practice, in fact, more trustworthy and which later became the regular procedure. This announcement, the *renuntiatio,* made according to a sacramental formula, created an 'ominal auspice' equivalent, for the purposes of the individual hearing it, to a real auspice." [1]

225 [1] *Ibid.,* p. 202. The same writer gives the following version of the ritual used at Iguvium, pp. 170-71: "The augur's assistant speaking from his station will propose as follows to the augur: 'I stipulate that you are to watch—a hawk on the right, a raven on the right, a woodpecker on the left, a magpie on the left, birds in flight on the left, birds singing on the left, being omens favourable to me.' The augur will stipulate as follows: 'I will watch—a hawk on the right, a raven on the right, a woodpecker on the left, birds in flight on the left and birds singing on the left, being favourable to me on behalf of the people of Iguvium in this particular temple.' " Cicero, *De divinatione,* II, 33, 71: "As regards fictitious signs taken as auspices (*ut sint auspicia quae nulla sunt*) those certainly which are customary with us, whether by the feeding of chickens or by lightning (*de caelo*), are mock-auguries (*simulacra auspiciorum*) and in no sense real ones." And continuing, 34, 71: " 'Quintus Fabius, I beg you to be my augur.' And he answers: 'Gladly!' With our forefathers, an expert was used for such purposes—nowadays anybody will do. However, it does take an expert to know what 'silence' is—'silence' being the name given in the taking of auguries to the circumstance where there is no trace of blemish. It is the test of the perfect augur to be able to determine that. When the augur says to his assistant, 'Tell me whether there seems to be silence,' the assistant does not look up, he does not look around—he answers blithely (*statim*): 'There seems to be silence.' Then the augur: 'Tell me if they are eating.' 'They are eating.' " Livy, *Ab urbe condita,* X, 40, 11, records an instance where an augury, though invented, was taken as favourable from the simple fact of being "renounced." The consul Papirius is informed by his nephew, a pious lad, that his auspices have been fraudulently reported. Papirius replies: "Blessings on you for your conscientiousness

226. The Romans dealt with substance according to their convenience, at the same time paying strict regard to forms, or better, to certain associations of ideas and acts. The Athenians modified both substance and forms. The Spartans were loath to change either. Before the Battle of Marathon the Athenians appealed to Sparta for assistance. "The Spartan authorities readily promised their aid, but unfortunately it was now the ninth day of the moon: an ancient law or custom forbade them to march, in this month at least, during the last quarter before the full moon; but after the full they engaged to march without delay. Five days' delay at this critical moment might prove the utter ruin of the endangered city; yet the reason assigned seems to have been no pretence on the part of the Spartans. It was mere blind tenacity of ancient habit, which we shall find to abate, though never to disappear, as we advance in their history." [1]

The Athenians would have changed both substance and form. The Romans changed substance, respecting form. In order to make a declaration of war a member of the college of Heralds (Feciales) had to hurl a spear into the territory of the enemy. But how perform the rite and declare war on Pyrrhus when that king's states were so far away from Rome? Nothing simpler! The Romans had captured a soldier of Pyrrhus. They had him buy a plot of ground in the Flaminian Circus, and the herald hurled his spear upon that

and virtue! But if the augur makes a false announcement, the responsibility to the gods rests with him. I have the report that the corn danced [when the chickens refused to eat it] and that is a first-class omen for this army and for the Roman People!"

226 [1] Grote, *History of Greece,* Vol. IV, pp. 341-42. *Ibid.,* Vol. VII, pp. 66-67: The Argives took advantage of these traits in their neighbours, the Spartans. At the time of the war against Epidaurus, while the Spartans were sitting inactive for the whole month called Karneios, the Argives arbitrarily decreed the month shortened by four days and opened hostilities (Thucydides, *Historiae,* V, 54, 3-4). [Smith, Vol. III, p. 107: "The Argives set out on the twenty-seventh of the month preceding the Carneion, and continuing to observe that day during the whole time, invaded Epidaurus and proceeded to ravish it."—A. L.] On another occasion, they instituted a fictitious month of Karneios to keep the Lacedaemonians quiet. Knowing that he was to lead the Spartan army against Argos, Agesipolis went to Olympia and Delphi for an opinion as to whether he was bound to grant a truce. He was told that he was at liberty to refuse one (Xenophon, *Hellenica,* IV, 7, 2; Brownson, Vol. I, pp. 347-49).

property. So the feeling in the Roman people that there was a close connexion between a hurled spear and a just war was duly respected.[2]

227. Ancient Roman law presents the same traits that are observable in religion and divination; and that tends to strengthen our impression that it must be a question of an intrinsic characteristic of the Roman mind asserting itself in the various branches of human activity. Furthermore, in Roman law, as in Roman religion and divination, there are qualitative differences that come out in any comparison with Athens. Says Von Jhering,[1] "The written word or the word pronounced under circumstances of solemnity—the formula—strikes primitive peoples as something mysterious, and faith itself ascribes supernatural powers to it. Nowhere has faith in the word been stronger than in ancient Rome. Respect for the word permeates all relationships in public and private life and in religion, custom, and law. For the ancient Roman the word is a power—it binds and it loosens. If it cannot move mountains, it can at least transfer a crop of grain from one man's field to a neighbour's. It can 'call forth' divinities (*devocare*) and induce them to abandon a besieged city (*evocatio deorum*)."

226 [2] Servius, *In Vergilii Aeneidem,* IX, v. 52 (Thilo-Hagen, Vol. II, pp. 315-16): "Thirty-three days after service of the demands upon the enemy, the College of Feciales sent their spear. But in the case of (*temporibus*) Pyrrhus the Romans were to make war on a power overseas, and they could find no place to celebrate the ceremony of a declaration of war by the Feciales. They accordingly arranged for a soldier of Pyrrhus to be captured, and caused him to buy a plot of ground in the Flaminian Circus, that they might comply with the rite of declaring war on hostile territory. Then a column was erected on the spot at the foot of the statue of Bellona and duly consecrated." The commander-in-chief of an army had to keep his auspices in order, and that could be done only on the Capitol. But how do that when he was in a distant land? A very simple matter! An imitation Capitol was built on foreign soil, and the auspices were taken there. *Ibid., Aeneid,* II, v. 178 (Thilo-Hagen, Vol. I, p. 250): ". . . Or a site was chosen for a tent in which the auspices should be taken. But this practice [of taking the urban auspices] was observed by the Roman generals so long as they were fighting in Italy, in view of the nearness. But as the Empire was extended far abroad, that the general might not be too long separated from the army by returning to Rome from long distances to take the auspices it was ordained that a plot of conquered territory should be 'made Roman' in the district where hostilities were in progress, and the general could repair thither if his auspices had to be renewed."

227 [1] *Geist des römischen Rechts,* Vol. II-2, § 44, p. 441.

Von Jhering is only partly right; not words alone have such powers, but words plus acts, and in more general terms still, certain associations of words, acts, and effects that endure in time and are not easily disintegrated. In the often quoted example of Gaius,[a] where a man loses his case by calling his vines vines instead of trees, as they were called in the Law of the XII Tables, one cannot see that the word had any decisive power. Certain associations of ideas had grown up and the Romans were loath to dissolve them, and worked out their law in deference to them. Anything new in jurisprudence had to respect forms in the various *actiones legis.*

"Theories [2] as to the methods of voluntary transfers of property were very different in Roman and in Attic law. In Rome there were formal ceremonies for acquiring property—the *mancipatio,* and the *in iure cessio,* which had a translative efficacy in themselves independently of any physical transmission. Nothing of the kind is to be found in Athens. If in some other places in Greece a sale is attended by formalities reminding one of the *mancipatio,* a sale in Attic law remains a purely consensual contract, which *ipso iure* effects transfer of title *inter partes.* In Rome, furthermore, the act of transmission is of great importance as a method of transferring property. In Attic law it figures as a mere fact, devoid of any translative significance whatsoever. It appears as a simple means of discharging obligations, the transfer of title having previously taken place by virtue of the contract. Nor did Attic law, either, make the validity of a contract dependent on the observance of certain solemn forms. . . . Athenian law did not require any of the formalities commonly practised in other countries, such as sacrifices, or witnessing by a magistrate or by neighbours. Transfer took place in virtue of the mutual agreement, and there was no requirement of witnessing or of stipulation by written deed."

228. But the most striking trait in ancient Roman law is not so much its strict observance of the word, of the form, but rather the progress that it makes in spite of its adherence to associations of

227 [a] *Commentarii,* IV, 11 (Poste, p. 494; Scott, Vol. I, p. 185).

227 [2] Beauchet, *Histoire du droit privé de la république athénienne,* Vol. III, pp. 104, 151.

ideas all the way along. The fact was clearly apparent to Von Jhering, though that scholar was primarily interested in another aspect of Roman law. After reciting several cases where ancient jurists sacrificed meaning to the literal expression he adds, *Op. cit.,* Vol. II-2, § 44, pp. 458-59: "These examples seem to show that ancient jurisprudence adhered strictly to the letter in interpreting laws. Nevertheless, as I see the matter, that opinion is to be absolutely rejected; and in proof I will give a list of cases in which jurisprudence undoubtedly departed from the letter of the law."

Ancient Roman law was all form and mechanism and reduced freedom of choice on the part of litigants and magistrates to a minimum. Legal actions remind one of a grist-mill: grain was put in at one end and flour came out at the other. Says Girard:[1] "The rôle of the magistrate has to be clearly grasped. He does not judge. It would perhaps be an exaggeration to say that he formulates the complaint. His collaboration serves merely to lend an indispensable authenticity to the actions of the parties, especially to the action of the plaintiff. As in extra-judicial procedure, it is the plaintiff who is asserting his right in applying the *legis actio.* . . . As for the magistrate, his rôle is that of an assistant, and if it is not a purely passive rôle, it is at least almost mechanical.[2] He must be present, and he must pronounce the words that the law requires him to pronounce. But that is almost all. He cannot grant action when the law does not grant it, nor, in our sense, can he refuse it (*denegare legis actionem*) when the law accords it;[3] and if there is a trial, it is not he who passes judgment . . . the issue, formulated *in iure* before the magistrate, is decided *in iudicio* by a different authority. The task of the magistrate ends with the naming of the judge, a nomination made to a far greater extent by the parties than by him."

229. We could continue marshalling such facts; for in all departments of Roman law one can detect manifestations of a psychic state

228 [1] *Manuel élémentaire de droit romain,* pp. 973-74.

228 [2] The notion is Cicero's, *Pro Lucio Murena,* 12, 26.

228 [3] This is a controversial point which we need not go into for the purposes we have in view—namely, to show, without entering upon details, that the Roman magistrate played a virtually mechanical rôle.

A, that accepts progress while respecting associations of ideas. Detecting traces of it in the system of the *legis actio,* we also see traces of it in the formulary system, and it altogether controls in the whole department of so-called legal fictions. Legal fictions are to be noted among all peoples in certain stages of their history; but the extent of their development and their long survival are quite remarkable in the case of ancient Rome, as they are in the case of modern England.

230. Similar phenomena are observable in the various aspects of political life. As the result of an evolution common to the majority of Greek and Latin cities, the king was superseded by new magistrates in Athens, Sparta, and Rome. But in Athens both substance and forms were completely changed; in Sparta changes were less marked both in substance and in form; in Rome they were very considerable as regarded substance, and much less extensive as regarded forms.[1]

In deference to certain associations of ideas and acts, the sacerdotal functions of the king passed, in Athens to the archon-king, and in Rome to the *rex sacrorum;* yet neither of those offices had any importance politically. From the political standpoint the king disappears entirely in Athens. In Sparta he is kept, but with greatly reduced powers. In Rome he is remodelled with the fewest possible changes in forms. The supreme magistracy becomes annual and is divided between two consuls of equal power, each of whom can act independently of the other and can halt action by the other.[2] "The

230 [1] Mommsen, *Römische Geschichte,* Vol. I-1, p. 244 (Dixon, Vol. I, pp. 254-55): "Everywhere, in Rome, among the Latins, the Sabellians, the Etruscans, the Apulians, in all the Italic cities, in a word, as well as in the Greek cities, magistrates holding office for life gave way to magistrates appointed annually. Among the Greek cities Sparta of course is an exception. It is interesting that Rome and the Italic cities did not have an age of tyrants as Greece did; and the absence of such a stage in Italy was probably due, at least in part, to the psychic state of the Italian peoples, a psychic state more conspicuously noticeable in Rome. In Sparta, the two kings owed their royal dignity to hereditary succession; they presided at councils, administered justice, commanded the army, and served as intermediaries between Sparta and the gods."

230 [2] Traditions are all unanimous in showing that the consuls inherited virtually all the powers of the kings. Livy, *Ab urbe condita,* II, 1, 7: "You may set down

constitution [3] gave the consuls the right to expand their college, especially in time of war, by the addition of a third member exercising the more comprehensive powers of a dictator. Popular election of dictators did not come till a later date and by way of special exception. The dictator was named by one of the consuls, just as the king had probably been named in former times by the acting king [*inter-rex*]. This royal nomination had but one limitation—the fact, namely, that the consuls and their colleagues, the praetors, remained in office along with the dictator, although they deferred to him in cases of dispute."

231. It is a most surprising trait in the Roman constitution that the higher magistrates, though in reality named by the *comitia,* seem to be named by their predecessors. "The most ancient popular election was not a choice freely made from a number of eligible individuals. It was probably limited at first by the right of the magistrate directing the election to make nominations. It is likely that in the very beginning exactly as many names were submitted to the people as there were officers to elect, and that, in principle, the voters could do nothing beyond mere acceptance or rejection of a proposed person, exactly as was the case with a proposed law." [1]

Even in days more recent, under the Republic, the magistrate superintending an election could accept a candidacy (*nomen accipere*) or reject one (*nomen non accipere*). And later on it was further necessary for the presiding magistrate to consent to announce ("re-

the origins of our liberty rather to the fact that the consular authority was limited to a year than to any diminution of the powers the kings had held. The first consuls kept all the prerogatives and all the ceremony of the kings." Cicero, *De republica,* II, 32, 56: "The Senate, accordingly, held the State in the same balance in that period. . . . Though the consuls had a merely annual authority, in character and prerogative it was a royal authority." *Cf.* also Dionysius of Halicarnassus, *Antiquitates Romanae,* IV, 73-75 (Spelman, Vol. II, pp. 277-81). It is unimportant, for our purposes, whether these traditions be more or less authentic. In any event they reveal the psychic state of those who gave them the form they have or in part invented them, and that psychic state is the thing we are trying to stress.

230 [3] Mommsen, *Römisches Staatsrecht,* Vol. I, pp. 216-17.

231 [1] *Ibid.,* Vol. I, p. 470.

nounce," *renuntiare*) the successful candidate, and if he refused, no one could oblige him to.[2]

232. We find nothing of that sort in Athens. There was, to be sure, an examination (δοκιμασία) to decide whether archons (who were chosen by lot), *strategoi* (generals who were elective magistrates) and senators were fit to perform their duties; but that certification of prerogative was something very different from the *renuntiatio*. Athens makes forms consistent with substance. Rome changed from kingdom to republic by dividing the functions of magistrates. She went back to monarchy under the Empire by recombining them anew. In the long series of constitutional changes which took place between those two extremes, forms were as far as possible preserved even though substance changed.

233. Towards the end of his life Caesar seemed inclined to depart from that rule. To a people like the Athenians such a desire would have been considered reasonable enough. The few Romans still cherishing old-fashioned notions were incensed at the dissociation of ideas and acts implied in it. Only by mistaking the part for the whole has it been possible to imagine Caesar's ruin as due to the

231 [2] Valerius Maximus, *De dictis factisque memorabilibus,* III, 8, 3, tells how C. Piso refused to "renounce" M. Palicanus, a notorious trouble-maker whom he considered unworthy of the consulate: "In this situation, as lamentable as it was disgraceful, Piso was almost dragged to the rostrum by the tribunes; and they [the mob] crowded about him on all sides, demanding whether he intended to announce Palicanus as elected consul by the votes of the People. At first he answered that 'he did not think the Republic had so far lost its mind that things would ever come to such a shameful pass.' 'Well,' they pressed, insisting on an answer, 'if things do come to that pass?' 'I will not announce him!' he said." Aulus Gellius, *Noctes Atticae,* VII, 9, 3: "But the aedile who was presiding over the assembly said he would not accept the nomination and that it was not his pleasure that a recorder (*qui scriptum faceret:* a scribe) should become an aedile." The same incident is mentioned in Livy, *Ab urbe condita,* IX, 46, 2. There are many other examples of the kind. Livy, *Ibid.,* XXXIX, 39: "The consul, Lucius Porcius, was at first of the opinion that he [Fulvius Flaccus] should not be recognized as a candidate." The *Lex Iulia municipalis,* I, 132 (Girard, *Textes de droit romain,* p. 78), as reconstituted by Mommsen, expressly forbids "renouncement" of individuals reputed unfit: "Nor shall any of you take account of him from the *comitia* or the council, nor shall any of you announce anyone so elected by the *comitia* or the council against these things [*i.e.,* principles]."

extravagant honours that he arranged to have paid him. They were but one element in a whole array of things shocking to such Roman citizens as still lingered in the psychic state of the forefathers.[1] Augustus found ways to respect traditions better. He is prevaricating brazenly when he says in the Ancyra inscription: "In my sixth and seventh consulates, after ending the civil wars, I restored to the Senate and the Roman People the powers that I had received by universal consent; and in honour of that action a decree of the Senate gave me the name of Augustus. . . . Whereafter, though above all others in honours, I have held no greater powers than my colleagues." [2] Velleius Paterculus, who showers most lavish flattery on Augustus and Tiberius, says that Augustus "restored to the laws their former force, to the courts their old prestige, to the Senate its pristine majesty, and to the magistrates their time-honoured authority." [3]

234. There were still consuls and tribunes under the Empire, but those were no more than empty names. So under Augustus the *comitia* still met to elect public officials; and—what is more surprising still and still better demonstrates the attachment of the Romans to certain forms—even under Vespasian a law was passed by the *comitia* investing the Emperor with power! At first blush it would

233 [1] Cicero, *Philippicae,* II, 34; Dio Cassius, *Historia Romana,* XLIV, 1-3. Velleius Paterculus, *Historia Romana,* II, 56, 4: "Marc Antony, his colleague in the consulship and a man altogether ready for any act of daring, had brought great unpopularity upon him by placing the emblem of royalty upon his head as he sat on the rostrum for the festival of the Lupercalia, since he had rejected the offer in such a way that he showed he had not been displeased by it."

233 [2] Text as constituted by Franz: *"In consulatu sexto et septimo [postquam bella civili]a extinxeram, per consensum universorum [civium mihi tradita]m rem publicam ex mea potestate in Senatu[s populique romani a]rbitrium transtuli, quo pro merito meo Sena[tus consulto Augustus appel]l[at]u[s]sum, et laureis postes aedium mearum v[inctae sunt p]u[bli]c[e] su[pe]rque eas ad ianuam meam e[x]qu[erna fronde co]r[o]n[a ci]v[ic]a posi[ta ob servatos cive]s, qu[ique es] se[t pe]r [inscriptione]m [t]e[stis meae] virtutis, clementiae, iustitiae, pietatis, est p[osit]us clupe[us aureus in curia a Senatu populoque R]o[mano quo]d, quamquam dignitate omnibus praestarem, potestatem tamen nih[ilo] amplio [rem haberem quam] con[l]e[g]ae mei."*

233 [3] *Historia Romana,* II, 89, 3: *"Restituta vis legibus, iudiciis auctoritas, senatui maiestas, imperium magistratuum ad pristinum redactum modum."*

seem that those Romans must have had a deal of time to waste to be going through with such farces! "Just so [1] was Augustus made a tribune in the Roman year 718, and thereafter his successors. After a vote in the Senate, a magistrate, probably one of the consuls on duty, presented to the *comitia* a 'bill' (*rogatio*) designating the Emperor and specifying his powers and prerogatives. . . . So the Senate and the People both participated in the 'election.' . . . The form, therefore, was the form customary for extraordinary magistracies instituted under the Republic: first a special law, then a popular ratification. . . . The transfer of elections from the *comitia* to the Senate, effected in the year 14 of our era, changed nothing so far as the imperial *comitia* were concerned: it affected only nominations of ordinary magistrates, and had nothing to do with magistrates theoretically extraordinary."

235. In such things the fatuousness of some of the logical reasons human beings offer for their behaviour strikes the eye very forcibly. The Roman jurists were not joking, they were in earnest, when they said that "it has never been questioned that the will of the Emperor has force of law, since he himself receives his authority from a law." [1] But after all, the legions and the praetorians must have counted for something! The unlettered dame in the story was thinking straighter than the long-faced Ulpian when she said to Caracalla, "Knowest thou not that it is for an Emperor to give, and not to receive, laws?" [2]

234 [1] Mommsen, *Römisches Staatsrecht,* Vol. II-2, pp. 874-76.

235 [1] Gaius, *Commentarii,* I, 5 (Poste, pp. 25-26; Scott, Vol. I, p. 82): "An imperial 'constitution' is something that the Emperor has ordained by decree, edict, or notification (*epistula*). Nor has it ever been questioned that it has status as law, since the Emperor himself acquires his authority by law." Ulpian, in *Digesta,* I, 4, 1 (*Corpus iuris civilis,* Vol. I, p. 66; Scott, Vol. II, p. 227): "The pleasure of the Emperor has the force of law, inasmuch as by the royal law ratifying his *imperium* the People confers to him and upon him all its power and authority." The *Institutiones* of Justinian, I, 2, 6 (*Corpus iuris civilis,* Vol. I, p. 4; Scott, Vol. II, p. 7), repeat the same thing; but by Justinian's time all that was archaeology.

235 [2] Aelius Spartianus, *Antoninus Caracallus,* 10, 2: "It may be of interest to know how he is said to have married his step-mother, Julia. She was a toothsome dame, and was sitting about with her body quite largely exposed as though by oversight. Said Antoninus: 'I would, if the law allowed.' And she is said to have answered: *'Si libet, licet. An nescis te imperatorem esse et leges dare non accipere?'* " Aurelius

236. It is a familiar fact that the Greeks had no term corresponding exactly to the word *religio*. Ignoring questions of etymology, which after all would not get us very far, we may simply remark that even in the classical period *religio* in one of its senses undoubtedly meant painstaking, conscientious, diligent attention to duties.[1] It is a state of mind in which certain ties (§§ 126 f.) wield a powerful influence over conscience. If, therefore, we feel absolutely compelled to designate the psychic state in question by a word in common use,

Victor, *De Caesaribus,* XXI: "He [Caracalla] was like his father in his wealth and in the marriage he made; for enamoured of the beauty of Julia, his step-mother, whose crimes I have already recounted, he sought her for his wife. Frowardly she exposed her body to his gaze, as though unaware of his presence—he being very young; and when he said, *'Vellem si liceret uti!',* she, saucily enough, in fact stripping her shame of every veil, replied: *'Libet?* Then, by all means, *licet!'* " In this form the anecdote must be fictional in character. Actually Julia was Caracalla's mother, not his step-mother.

236 [1] Bréal-Bailly, *Dictionnaire étymologique latin, s.v. Lego,* derive *religio* from *lego: "Religio* meant 'conscientiousness,' and particularly conscientiousness in matters of piety. . . . From that first meaning all others are derived." Bréal's etymology is no longer accepted; but that is of scant importance, for neither in this case nor in any other do we intend to infer the character of a thing from the etymology of its name. Forcellini errs in representing as derived a meaning that more probably is primitive, but he states it very well: *"Religio:* . . . 10: figuratively, minute and scrupulous diligence and care: Italian *esattezza.* Cicero, *Brutus,* 82, 283: *'Eius oratio nimia religione attenuata* [His style was cramped by too great conscientiousness]'; *Idem, Orator ad Marcum Brutum,* 8, 25: 'It was the wise and sound conviction of the Athenians that they could listen to nothing that was not well-bred (*elegans*) and free from blemish; and if their orator was attentive to this fastidiousness on their part (*quorum religioni cum serviret*), he never dared utter a word that was insolent or distasteful': Italian *delicatezza.* 11: *Iusta muneris functio* [conscientious performance of duty]: Italian *puntualità."*

One might caution, meantime, that the primitive meaning of *superstitio* was not at all what we mean by "superstition," but rather "excessive piety," something overstepping the orderliness, the regularity, so dear to the Romans. Aulus Gellius, *Noctes Atticae,* IV, 9, 1-3, quotes a line from an ancient poem, *"Religentem esse oportet, religiosus ne fuas,"* and the maxim means, he explains, that one should be "religious" (observant of one's pious duties) but not "superstitious" (not so observant to excess). And he cites Nigidius on the point: " 'That is the connotation of all words of the kind: *vinosus, mulierosus, religiosus, nummosus* ("overrich"), which suggest immoderate abundance of the quality alluded to. So a "religious" man was a man who had bound himself to an excessive, overconscientious observance of his pious duties (*religione*), so that the trait could be called a defect in him.' " Gellius continues: "But in addition to the sense mentioned by Nigidius, by another shade of meaning (*diverticulo*) a man of pure life scrupulously observing certain rules and keeping himself within certain limits may be called a 'religious' man."

the most appropriate term, without being strictly exact, would seem to be *religio*.[2]

237. An anecdote of Livy clearly brings out this scrupulous attachment to ties to the discomfiture of all other sentiments. A number of soldiers, not wishing to obey the consuls, began to consider whether they could be freed of the oath binding them to their obedience by killing them. After a time they came to the conclusion that a crime could not wipe out a sacred pledge, so they resorted to a sort of strike.[1] It matters little whether this be history or fiction. If it is fiction, the person who invented it knew that his hearers would consider it quite natural to wonder whether killing a person to whom one was bound by an oath were a means of getting rid of the oath; and natural also to answer in the negative, not from any aversion to homicide, but because homicide would not be the effective way of cancelling an oath. This whole discussion as to the way to escape the consequences of a vow belongs to *religio* in the Latin sense.

238. And as manifestations of the same *religio* we must regard the numberless facts that present the Romans as a conscientious, exact, scrupulous people, devoted—even too much so—to orderliness and regularity in their private lives. The head of every Roman family kept a diary, or ledger, in which he recorded not only income and expenditures, but everything of importance happening in the family circle—something similar to the day-books which Italian law requires merchants to keep, but also covering matters alto-

236 [2] Even if we stick to the Latin form of the word, some people will insist on understanding it in a sense altogether different from the meaning we wish to give it, whether because of its similarity to the word "religion" or because of other senses that the word has in Latin. It is my sad experience that no precaution can prevent people from taking terms in their ordinary meanings, and that no attention is paid to the definitions a writer gives, no matter how explicit and clear he makes them (§ 119).

237 [1] *Ab urbe condita*, II, 32, 2: "At first, it is said, it was debated as to whether they could be freed of their oath by slaughtering the consuls; but when they were told that no vow was ever cancelled by a crime, at the suggestion of a certain Sicinius they withdrew to the Sacred Mount [three miles from the city, across the Anio] in defiance of consular orders."

gether foreign to the mere administration of the family property.[1]

239. It might seem that the religion of the Greeks, in which reason and imagination played a more important rôle, should be more moral than the religion of the Romans, which comes down to a series of fictions in which reason played no part whatever. The contrary, however, was the case. We may ignore the scandalous adventures of the gods, and keep, rather, to the influence of religion on the conduct of daily life.[1] For the Romans the physical acts of the cult were everything, intentions nothing. The Greeks too passed through just such a stage in an archaic period of their history: a murder was expiated by an altogether external ceremony. But they, or more exactly their thinkers, soon outgrew this materialistic formalistic morality. "Even as there is no remedy for lost virginity," Aeschylus will cry, "so all the rivers of the world gathered into one avail not to wash the blood-stained hands of a murderer."[2] Cer-

238 [1] Cicero, *In Caium Verrem,* II, 23, 60: "We have heard of individuals not keeping books—that charge was made against Antony, but falsely, for his books were in the best of order. All the same there are some few examples of such reprehensible conduct. Then again we have heard of individuals whose books are missing for certain periods—and one might imagine reasons to justify that conduct. But what is unheard of and altogether ridiculous is the reply Verres made when we asked him to produce his books. He said that he had kept them up to the consulships of M. Terentius and C. Cassius, but had ceased doing so after that." On this passage Asconius annotates: "It was the custom for each Roman to keep his domestic accounts day by day over his whole life, so that it might be apparent for each day what he had laid aside from his income, what his earnings from trade, business, or money loaned, and what his expenditures or losses." To the demand on his client, M. Coelius, to produce his books, Cicero replies, *Pro Marco Coelio,* 7, 17: "A man who is still a junior in his family (*qui in patris potestate est*) is not required to keep books."

239 [1] Dionysius of Halicarnassus, *Antiquitates Romanae,* II, 19 (Spelman, Vol. I, p. 257): "One does not hear among the Romans of a Uranus castrated by his sons, of a Saturn devouring his children, of a Jove dethroning a Saturn and making him a prisoner in Tartarus; nor of divine wars and maimings, nor of gods in chains and made slaves of men. . . . (*οὐδέ γε πόλεμοι καὶ τραύματα καὶ δεσμοὶ καὶ θητεῖαι θεῶν παρ'ἀνθρώποις*)." According to Dionysius even rites of worship were more moral in Rome than in Greece.

239 [2] *Choëphorae,* vv. 71-74 (69-72):

Οἴγοντι δ'οὔτι νυμφικῶν ἐέλλίων
ἄκος, πόροι τε πάντες ἐκ μιᾶς ὁδοῦ

tainly one might expect to find a rectitude of conduct corresponding to such exalted thoughts. What we actually find is the opposite. In the end Rome got to be as immoral as Greece; but originally, and even in the fairly recent day of the Scipios, Polybius could write, *Historiae,* VI, 56, 13 (Paton, Vol. III, pp. 395-97): "So, not to mention other things, if a mere talent is entrusted to those who have charge of public monies in Greece, though they give bond to ten times the amount and there be ten seals and twice that many witnesses, you will never see your talent again; whereas with the Romans, magistrates or provincial governors who have the handling of large sums of money respect their given word out of regard for their oath." The sacred chickens may have been ridiculous; but they never caused the Roman armies a disaster comparable to the defeat that the Athenians suffered in Sicily through fault of their soothsayers.

240. Rome had no prosecutions for impiety comparable to the trials for ἀσέβεια in Athens, and, much less, to the numberless religious persecutions with which the Christians were to afflict humanity. Had Anaxagoras lived in Rome, he could have asserted to his heart's content that the sun was an incandescent mass, and no one would have paid any attention to what he said.[1] In the year

βαίνοντες τὸν χερομνσῆ
φόνον καθαίροντες ἰοῦσαν ἀτην.

Sophocles, *Oedipus Rex,* vv. 1227-28 (Storr, Vol. I, pp. 114-15): "I do not believe that the waters of the Ister and the Phasis could wash away the crimes committed in this palace." An epigram in the *Greek Anthology,* XIV, 71 (7) (Paton, Vol. V, pp. 62-63), gives an oracle of the Pythoness: "Stranger, enter a pure temple with a pure heart after touching the water of the Nymphs. The virtuous need only a drop, but a wicked man could not be cleansed with all the Ocean."

240 [1] According to Plutarch, *Nicias,* 23, 2-3 (Perrin, Vol. III, p. 291), Anaxagoras disclosed his theories of eclipses only to a few individuals. But at that time such speculations were not tolerated in Athens. "Protagoras was exiled. Anaxagoras was thrown into prison and extricated by Pericles with great difficulty. Socrates did not deal with physical sciences, but was none the less put to death because of his philosophy." *Idem, Pericles,* 32, 2 (Perrin, Vol. III, p. 93): "A law proposed by Diopeithes made it an actionable offence to deny the existence of the gods and discuss celestial things; and that brought suspicion upon Pericles because of Anaxagoras." Diogenes Laertius, *Anaxagoras,* II, 3, 12 (Hicks, Vol. I, p. 143), says that

155 B.C. the Athenians sent to Rome an embassy made up of three philosophers, Critolaus, Diogenes, and Carneades. Hellenophiles in Rome greatly admired the captious eloquence of Carneades; but Cato the Censor, mouthpiece for the spirit of the old Romans, viewed all such clever chatter as more than suspicious and urged the Senate to rush the business that had brought such individuals to Rome to the earliest possible close, "that they might go back to their schools and spout before the children of the Greeks, leaving young people in Rome to mind their magistrates and respect the laws as they had always done." [2]

Cato, mark well, does not care to discuss the doctrines of Carneades. He is not in the least interested in knowing whether or not their reasoning is sound. He is looking at them from the outside. All that captious hair-splitting seems to him to have no value. It can do no good and may do harm for young people in Rome to listen to it. Great would have been Cato's amazement had he known that some day people were going to kill each other to prove or disprove the consubstantiality of the Word or the second person of the Trinity—the Arian heresy; and rightly would he have thanked Jupiter Optimus Maximus for preserving the Romans from such folly (which, for that matter, in some instances, clothed a rational substance).

241. Athenian law, which was essentially logical and sought to settle questions on broad lines without embarrassments from a stupid formalism or too many fictions, should have been superior to Roman law. But everybody knows that the exact opposite was the case. "The Greek intellect,[1] with all its nobility and elasticity, was quite unable to confine itself within the strait waistcoat of a legal formula; and, if we may judge them by the popular courts of Athens, of whose working we possess accurate knowledge, the Greek tribunals ex-

Anaxagoras was accused of impiety by Cleon for having asserted that the sun was a molten mass. Plato, *Apologia,* 26, (14) (Fowler, p. 99), imagines Meletus as accusing Socrates of saying that the sun is a stone and the moon an earth. To which Socrates replies: "You must think you are accusing Anaxagoras, friend Meletus."

240 [2] Plutarch, *Cato Maior,* 22, 6 (Perrin, Vol. II, p. 371).

241 [1] Maine, *Ancient Law,* pp. 72-73.

hibited the strongest tendency to confound law and fact. . . . No durable system of jurisprudence could be produced in this way. A community which never hesitated to relax rules of written law whenever they stood in the way of an ideally perfect decision on the facts of particular cases, would only, if it bequeathed any body of judicial principles to posterity, bequeath one consisting of the ideas of right and wrong which happened to be prevalent at the time."

So far we agree with Sumner Maine; but we cannot agree when, *loc. cit.,* pp. 73-74, he ascribes the perfection of Roman law to the Roman theory of natural law. That theory was appended to the ancient fund of Roman law at a relatively recent date. Von Jhering comes closer to the crux of the problem. His description of the facts is excellent. As for the causes, what he calls "the rigorous logic of the conservative spirit" is nothing but the Roman psychic state, of which we have been speaking above, combining with logical and practical inferences that entail the fewest possible modifications in certain associations of ideas and acts.

I will transcribe Von Jhering's paragraph, putting in brackets the emendations that I consider appropriate:[2] "If Roman jurisprudence found a simple and logical law ready-made, it owes that advantage morally to the ancient Roman people, which, in spite of its spirit of liberty, had submitted for centuries to a relentless logic [to the logical consequences of associations—which they would not have anyone disturb—of ideas and acts]. . . . The truth of what we have just said is apparent in the peculiarly Roman manner—so familiar to all who know Roman law—of reconciling an embarrassing logic [certain associations of ideas and acts] with practical requirements by devices of all sorts: make-believe, roundabout detours, fictions. The moral aversion of the Romans to any violation of a principle once recognized [resulting from associations of ideas and acts] stimulates and, as it were, crowds their intelligence to exercise all its sagacity in discovering ways and means for reconciling logic and practical exigency. Necessity is the mother of invention. . . . The

241 [2] *Geist des römischen Rechts,* Vol. I, pp. 333-35 (Pt. I, § 20).

second national trait of the Romans mentioned above, their conservative spirit [conservative as regards forms, progressive as regards substance], worked in exactly the same direction, and it, too, was a powerful lever for their inventive talents in law. To reconcile the necessities of the present with the traditions of the past, to do justice to the former without breaking, either in form or in substance, with the latter, to discipline juridical intercourse and guide the progressive force of law into its proper channels—that for centuries was the truly noble and patriotic mission of Roman juridical science. [We can dispense with the mission, the nobility, and the patriotism.] Roman jurisprudence towered the greater in proportion to the difficulties that it encountered."

242. In statecraft there is better yet. We can only wonder how a system so absurd from the standpoint of logic could ever have survived. Magistrates with equal prerogatives, such as two consuls and two censors; tribunes able to halt the whole juridical and political process; *comitia* trying to work with the complication of the auspices; a Senate without any well-defined jurisdiction—such things seem to be loose parts of a ramshackle machine that could never have functioned. Yet it did function for century after century, and gave Rome dominion over the Mediterranean world; and when it finally broke down it broke down because it had been worn out by a new people that had lost the *religio* of the old. Thanks to ties of non-logical conduct and to forces of innovation, Rome found a way to reconcile discipline with freedom and strike a golden mean between Sparta and Athens.

243. The oration on the war-dead that Thucydides, *Historiae,* II, 35-46, ascribes to Pericles and Cicero's oration on the responses of the haruspices offer a striking contrast. The Athenian speaks like a modern. The prosperity of Athens is due to democracy, to just laws, to the good sense of her citizens, to their courage. These traits in the Athenians make Athens a better city than the other cities in Greece. The Roman does not bestow so much praise on the knowledge and courage of his fellow-citizens. "However highly we may esteem ourselves, O Conscript Fathers, we have not been superior in

numbers to the Spaniards, in physique to the Gauls, in shrewdness to the Carthaginians, in the arts to the Greeks, nor even to the Italians and the Latins in the good sense native to our soil. But to all peoples and races we have been superior in piety, in religion, in that wisdom which has led us to understand that all things are ruled and directed by the immortal gods." [1] That seems to be the language of bigotry, and instead it is the language of reason, especially if the word "religion" be taken in the sense of the *religio* defined above. The cause of Roman prosperity was a certain number of ties, of *religiones,* which made the Romans a disciplined people. To be sure, Cicero was not thinking in just those terms—his theme was the power of the immortal gods—but the concept of the rule, of the tie, was not absent from his mind. He began by lauding the wisdom of the forefathers, "who thought that sacred rites and ceremonies were the affair of the pontiffs, and good auspices the affair of the augurs; that the ancient prophecies of Apollo were to be read in the Sibylline Books; and that the interpretation of prodigies belonged to Etruscan lore." [2] In truth, a genuinely Roman conception or order and regularity!

244. Among modern peoples, the English, at least down to the last years of the nineteenth century,[1] have more than any other

243 [1] Cicero, *De haruspicum responsis,* 9, 19: *"Quam volumus licet, patres conscripti, ipsi nos amemus, tamen nec numero Hispanos, nec robore Gallos, nec calliditate Poenos, nec artibus Graecos, nec denique hoc ipso huius gentis ac terrae domestico nativoque sensu, Italos ipsos ac Latinos, sed pietate ac religione, atque hac una sapientia, quod deorum immortalium numine omnia regi gubernarique perspeximus, omnes gentes nationesque superavimus."* In the *De natura deorum,* II, 3, 8, Cicero makes Balbus say: "And if we were to compare our national traits with those of other peoples, we would find ourselves their inferiors or at the best their equals in many things, but their superiors and by far in *religio,* which means worship of the gods." Note that *religio* is here defined as worship (*cultu*).

243 [2] *Op. cit.,* 9, 18: ". . . *qui statas solemnesque caerimonias pontificatu; rerum bene gerendarum auctoritates augurio; fatorum veteres praedictiones Apollinis vatum libris; portentorum explanationes Etruscorum disciplina contineri putarunt. . . .*" And see our § 182.[5]

244 [1] This qualification is necessary, for with the first decade of the twentieth century the government of England fell into the hands of Welsh and Irish fanatics. If that is not just a passing fancy but indicates a change in the character of the country as a whole, the England of the future will be nothing like the England of

people resembled the Romans in their psychic state. English law is still replete with fictions. The English political system keeps the same antiquated names, the same antiquated forms, whereas in substance it is constantly changing. England still has a king, as in the times of the Plantagenets, the Tudors, and the Stuarts; but he has less authority, less power, than the President of the United States. Under Charles I we see a civil war fought by the King in his Parliament against the King in his camp. No Roman ever devised a fiction so far-fetched! Even today the ceremonies connected with the opening of Parliament are archaic to the point of comedy. Before the Commons appears a pompous individual called the Gentleman Usher of the Black Rod, who invites them to proceed to the House of Lords to hear the Speech from the Throne. The Commons repair thither and then return to their own chamber, where the Speaker informs them with a perfectly straight face of something they have heard as distinctly as he. Immediately a bill has to be read, as a matter of mere form, to safe-guard the right of Parliament to be the first to discuss public business, without going into the reasons for the convocation. English political organization is adapted to the needs of the English people, just as the political organization of ancient Rome was adapted to the needs of the Roman people, and all modern peoples have sought to copy it more or less faithfully. That organization enabled England to issue victorious from the Napoleonic wars and has secured Englishmen greater liberties than the majority of European peoples have enjoyed. All this is now tending to change as a result of new customs and new habits that seem about to get a foothold in England.

245. In our discussion so far we have had to use terms of ordinary language, which are by nature not very strict in meaning. Keeping for the moment to the terms "Athenians," "Romans," and so on, used in the foregoing—exactly what do they represent? Among ancient peoples they designated citizens only, not slaves and not foreigners. But do our statements apply to all the citizens in ques-

the past. It is to the latter England, the only England very well known as yet, that I refer when I mention that country in these pages.

tion? From certain facts, acts, laws, customs, we have inferred the psychic state of the individuals who created those facts, performed those acts, accepted those laws and customs. Legitimate enough! But it would not be legitimate to pretend that they made up the whole nation, or even the numerical majority in the nation.

246. Every people is governed by an *élite,* by a chosen element in the population; and, in all strictness it is the psychic state of that *élite* that we have been examining.[1] We can, at the very most, go on and say that the remainder of the population followed the impulse given by it. An *élite* can change with changes in the individuals composing it or in their descendants, or even through the infiltration of extraneous elements, which may come from the same country or from some other country. When only children of Athenian citizens could be citizens in Athens, the Athenian *élite* could change only through changes occurring in its individual members, or through taking in new members from the Athenian citizenry at large.

247. Observable in Rome are not only changes of those same kinds, but also an infiltration of foreign peoples, now of Latins or Italians through an extension of the right of citizenship, now of miscellaneous elements of all sorts, even of Barbarians, by way of freed slaves and descendants of freedmen. Scipio Aemilianus was able to say to an unruly assembly of plebeians that they were not even Italians.[1] We must therefore be on our guard against drawing hasty conclusions from the examples we have been quoting. We have, to be sure, found the characteristics of certain *élites,* but we have not solved the problem of their composition.

248. These last considerations lead us to a point beyond which we begin to encounter a matter different in character from that so far

246 [1] The meaning of the term *"elite"* must not be sought in its etymology. It will be defined in Chapter XII.

247 [1] Velleius Paterculus, *Historia Romana,* II, 4, 4: "With all the assembly in an uproar he said: 'Many a time have I stood unmoved at the clamour of armed enemies! How then am I to be stirred by the clamour of men like you who have Italy for no more than a step-mother?' "

examined. It would be premature to go farther than we have gone, and dangerous to do so before we have finished what we have begun. Let us, therefore, retrace our steps. Our little excursion has served, however, to acquaint us with at least the existence of those other problems, which we shall come to in our later chapters.

CHAPTER III

Rationalization of Non-logical Conduct

249. The research just completed has called our attention—along with a number of incidental inductions—to the following facts:

1. The existence and importance of non-logical conduct. That runs counter to many sociological theories that either scorn or ignore non-logical actions, or else, in an effort to reduce all conduct to logic, attach little importance to them. The course we follow in studying the behaviour of human beings as bearing on the social equilibrium differs according as we lay the greater stress on logical or non-logical conduct. We had better look into that matter more deeply, therefore.

2. Non-logical actions are generally considered from the logical standpoint both by those who perform them and by those who discuss them and generalize about them. Hence our need to do a thing of supreme importance for our purposes here—to tear off the masks non-logical conduct is made to wear and lay bare the things they hide from view. That too runs counter to many theories which halt at logical exteriors, representing them not as masks but as the substantial element in conduct itself. We have to scrutinize those theories closely: for if we were to find them true—in accord with experience, that is—we would have to follow an altogether different course from the one we would follow were we to discover that the substantial element in the conduct lies in the things that underlie the logical exteriors (§ 146).

3. The experimental truth of a theory and its social utility are different things. A theory that is experimentally true may be now advantageous, now detrimental, to society; and the same applies to a theory that is experimentally false. Many many people deny that. We must therefore not rest satisfied with the rapid survey we have made so far, much less with the bald declaration in § 72. We must

see whether observation of the facts confirms or belies our induction (§§ 72-73).

4. As regards logical and non-logical conduct there are differences between individual human beings, or, taking things in the mass, between social classes, and differences also in the degrees of utility that theories experimentally true or experimentally false have for individuals or classes. And the same applies to the sentiments that are expressed through non-logical conduct. Many people deny such differences. To not a few the mere suggestion that they exist seems scandalous. It will therefore be necessary to continue our examination of that subject, on which we have barely touched, and clearly establish just what the facts have to say.

250. Meantime, our first survey has already given us an idea, however superficial, of the answers that have to be given to the inquiries suggested in §§ 13-14 as to the motives underlying theories, as to their bearing on experimental realities, and as to individual and group utilities—and we see that some at least of the distinctions that are drawn in those paragraphs are not merely hypothetical, but have points of correspondence with reality.

251. In the following pages we shall devote ourselves chiefly to running down non-logical actions in the theories or descriptions of social facts that have been put forward by this or that writer; and that will give us an approximate notion of the way non-logical conduct is masked by logic.

252. If non-logical actions are really as important as our induction so far would lead us to suppose, it would be strange indeed that the many men of talent who have applied themselves to the study of human societies should not have noticed them in any way. Distracted by preconceptions or led astray by erroneous theories, they may, "as they that have spent eyes," have caught imperfect glimpses of them; but it is hard to believe that they can have seen nothing where we find so much that is of such great significance. Let us therefore see just how the matter stands.

253. But for that purpose we have to take an even more general view of things: we have to see to what extent reality is disfigured

in the theories and descriptions of it that one finds in the literature of thought. We have an image in a curved mirror; our problem is to discover the form of the object so altered by refraction.

Suppose we ignore, for the moment, the simplest case of writers who understand that the conduct of human beings depends, to some extent at least, on the environment in which they live, on climate, race, occupation, "temperament." It is obvious that the behaviour resulting from such causes is not the product of pure ratiocination, that it is non-logical behaviour. To be sure, that fact is often overlooked by the very writers who have stressed it, and they therefore seem to be contradicting themselves. But the inconsistency is now and again more apparent than real; for when a writer admits such causes he is usually dealing with what *is*—and that is one thing. When he insists on having all conduct logical, he is usually describing what, in his opinion, *ought to be*—and that is quite another thing. From the scientific laboratory he steps over into the pulpit.

254. Let us begin with cases not quite so simple but where it is still easy to perceive the experimental truth underneath imperfect and partly erroneous descriptions of it.

Here, for instance, is *The Ancient City* of Fustel de Coulanges. In it we read, p. 73 (Small, p. 89): "From all these beliefs, all these customs, all these laws, it clearly results that from the religion of the hearth human beings learned to appropriate the soil and on it based their title to it." But, really, is it not surprising that domestic religion should have preceded ownership of land? And Fustel gives no proof whatever of such a thing! The opposite may very well have been the case—or religion and ownership of land may have developed side by side. It is evident that Fustel has the preconceived notion that possession has to have a "cause." On that assumption, he seeks the cause and finds it in religion; and so the act of possession becomes a logical action derived from religion, which in its turn can now be logically derived from some other cause. By a singular coincidence it happens that in this instance Fustel himself supplies the necessary rectification. A little earlier, p. 63 (Small, p. 78), he writes: "There are three things which, from the most ancient times, one

finds founded and solidly established in these Greek and Italian communities: domestic religion, the family, the right of property—three things which were obviously related in the beginning and which seem to have been inseparable."

How did Fustel fail to see that his two passages were contradictory? If three things *A, B, C* are "inseparable," one of them, for instance *A,* cannot have produced another, for instance *B:* for if *A* produced *B,* that would mean that, at the time, *A* was separate from *B.* We are therefore compelled to make a choice between the two propositions. If we keep the first, we have to discard the second, and *vice versa.* As a matter of fact, we have to adopt the second, discarding the proposition that places religion and property in a relationship of cause and effect, and keeping the one that puts them in a relationship of interdependence (§§ 138, 267). The very facts noted by Fustel himself force that choice upon us. He writes, p. 64 (Small, p. 79): "And the family, which by duty and religion remains grouped around its altar, becomes fixed to the soil like the altar itself." But the criticism occurs to one of its own accord: "Yes, provided that be possible!" For if we assume a social state in which the family cannot settle on the soil, it is the religion that has to be modified. What obviously has happened is a series of actions and reactions, and we are in no position to say just how things stood in the beginning. The fact that certain people came to live in separate families fixed to the soil had as one of its manifestations a certain kind of religion; and that religion, in its turn, contributed to keeping the families separate and fixed to the soil (§ 1021).

255. In this we have an example of a very common error, which lies in substituting relationships of cause and effect for relationships of interdependence (§ 138); and that error gives rise to still another: the error of placing the alleged effect, erroneously regarded as the logical product of the alleged cause, in the class of logical actions.

256. When Polybius stresses religion as one of the causes of the power of Rome (§ 313), we will accept the remark as very sugges-

tive; but we will reject the logical explanation that he gives of the fact (§ 313[1]).

In Sumner Maine's *Ancient Law,* p. 122, we find another example like Fustel's. Maine observes that ancient societies were made up of families. That is a question of fact which we choose not to go into—researches into origins are largely hypothetical anyway. Let us accept Maine's data for what they are worth—just as hypotheses. From the fact he draws the conclusion that ancient law was "adjusted to a system of small independent corporations." That too is good: institutions adjust themselves to states of fact! But then suddenly we find the notion of logical conduct creeping stealthily in, p. 177: "Men are regarded and treated, not as individuals, but always as members of a particular group." It would be more exact to say that men are that in reality, and law, accordingly, develops *as if* men were regarded and treated as members of a particular group.

A little earlier, Maine's intromission of logical conduct is more obtrusive. Following his remark that ancient societies were made up of small independent corporations, he adds, p. 122: "Corporations *never die,* and accordingly primitive law considers the entities with which it deals, *i.e.,* patriarchal or family groups, as perpetual and inextinguishable." From that Maine derives as a consequence the institution of transmission, upon decease, of the *universitas iuris,* which we find in Roman law. Such a logical sequence may easily be compatible with a posterior logical analysis of antecedent non-logical actions, but it does not picture the facts accurately. To come nearer to them we have to invert some of the terms in Maine's previous remarks. The succession of the *universitas iuris* does not derive from the concept of a continuous corporation: the latter concept derives from the fact of succession. A family, or some other ethnic group, occupies a piece of land, comes to own flocks, and so on. The fact of perpetuity of occupation, of possession, is in all probability antecedent to any abstract concept, to any concept of a law of inheritance. That is observable even in animals. The great felines occupy certain hunting-grounds and these remain properties of the various

families, unless human beings chance to interfere.[1] The ant-hill is perpetual, yet one may doubt whether ants have any concept of the corporation or of inheritance. In human beings, the fact gave rise to the concept. Then man, being a logical animal, had to discover the "why" of the fact; and among the many explanations he imagined, he may well have hit upon the one suggested by Sumner Maine.

Maine is one of the writers who have best shown the difference between *customary* law (law as *fact*) and *positive* law (law as *theory*); yet he forgets that distinction time and again, so persuasive is the concept that posits logical conduct everywhere. Customary law is made up of a complex of non-logical actions that regularly recur. Positive law comprises two elements: first, a logical—or pseudo-logical or even imaginary—analysis of the non-logical actions in question; second, implications of the principles resulting from that analysis. Customary law is not merely primitive: it goes hand in hand with positive law, creeps unobtrusively into jurisprudence, and modifies it. Then the day comes when the theory of such modifications is formulated—the caterpillar becomes a butterfly—and positive law opens a new chapter.

257. Of the assassination of Caesar, Duruy writes:[1] "Ever since the foundation of the Republic the Roman aristocracy had adroitly fostered in the people a horror for the name of king." In that the logical varnish for conduct that is non-logical is easily recognizable. Then he goes on: "If the monarchical solution answered the needs of the times, it was almost inevitable that the first monarch should pay for his throne with his life, as our Henry IV paid for his." In such "needs of the times" we recognize at once one of those amiable fictions which historians try to palm off as something concrete. As for the law that first monarchs in dynasties have to die by assassination, history gives no experimental proof of any such fact. We have to see in it a mere reminiscence of the classical *fatum,* and pack it

256 [1] On the shores of the Lake of Geneva one may see flocks of swans each of which occupies a certain area of the lake. If a swan of one flock tries to invade the territory of another flock, it is attacked, beaten, driven off. The old swans die, young ones are hatched and grow up, and the flock endures as a unit.

257 [1] *Histoire des Romains,* Vol. III, p. 411 (Mahaffy, Vol. III, pp. 398-99).

off to keep company with many similar products of the scholarly fancy.

258. Shall we banish from history the prodigies that Suetonius never forgets to enumerate in connexion with the births or deaths of the Roman Emperors, without trying to interpret them—for we shall see how mistaken such an effort on our part would be (§ 672) —and shall we keep only such of his facts as are, or at least seem to be, historical? Shall we do the same with all similar historical sources—for instance, with histories of the Crusades? [1]

In doing that we should be on dangerous ground, for if we made it an absolute rule to divide all our narrative sources into two elements, one miraculous, incredible, which we reject, and another natural, plausible, which we retain, we should certainly fall into very serious errors (§ 674). The part that is accepted has to have extrinsic probabilities of truth, whether through the demonstrable credibility of the author or through accord with other evidence.

259. From a legend we can learn nothing that is strictly historical; but we can learn something, and often a great deal, about the psychic state of the people who invented or believed it; and on knowledge of such psychic states our research is based. We shall therefore often cite facts without trying to ascertain whether they are historical or legendary; because for the use we are going to make of them they are just as serviceable in the one case as in the other—sometimes, indeed, they are better legendary than historical.

260. Logical interpretations of non-logical conduct become in their turn causes of logical conduct and sometimes even of non-logical conduct; and they have to be reckoned with in determining the social equilibrium. From that standpoint, the interpretations of plain people are generally of greater importance than the interpretations of scholars. As regards the social equilibrium, it is of far greater moment to know what the plain man understands by "virtue" than to know what philosophers think about it.

258 [1] [I read these sentences as interrogations. They are declarative in the original. Evidently the paragraph has been transferred to this point from some place in Chap. I, Pareto neglecting to establish connections.—A. L.]

261. Rare the writer who fails to take any account of non-logical conduct whatever; but generally the interest is in certain natural inclinations of temperament, which, willynilly, the writer has to credit to human beings. But the eclipse of logic is of short duration—driven off at one point, it reappears at some other. The rôle of temperament is reduced to lowest terms, and it is assumed that people draw logical inferences from it and act in accordance with them.

262. So much for the general situation. But in the particular, theorists have another very powerful motive for preferring to think of non-logical conduct as logical. If we assume that certain conduct is logical, it is much easier to formulate a theory about it than it is when we take it as non-logical. We all have handy in our minds the tool for producing logical inferences, and nothing else is needed. Whereas in order to organize a theory of non-logical conduct we have to consider hosts and hosts of facts, ever extending the scope of our researches in space and in time, and ever standing on our guard lest we be led into error by imperfect documents. In short, for the person who would frame such a theory, it is a long and difficult task to find outside himself materials that his mind supplied directly with the aid of mere logic when he was dealing with logical conduct.

263. If the science of political economy has advanced much farther than sociology, that is chiefly because it deals with logical conduct.[1] It would have been a soundly constituted science from the start had it not encountered a grave obstacle in the interdependence of the phenomena it examines, and at a time when the scholars who were devoting themselves to it were unable to utilize the one method so far discovered for dealing with interdependencies. The obstacle was surmounted, in part at least, when mathematics came to be applied to economic phenomena, whereby the new science of mathematical economics was built up, a science well able to hold its own with the other natural sciences.[2]

263 [1] Pareto, *Manuel*, pp. 145-46.

263 [2] Two very important books on mathematical economics are Osorio's *Théorie mathématique de l'échange*, and Moret's *L'emploi des mathématiques en économie politique*.

264. Other considerations tend to keep thinkers from the field of non-logical conduct and carry them over into the field of the logical. Most scholars are not satisfied with discovering what is. They are anxious to know, and even more anxious to explain to others, what *ought* to be. In that sort of research, logic reigns supreme; and so the moment they catch sight of conduct that is non-logical, instead of going ahead along that road they turn aside, often seem to forget its existence, at any rate generally ignore it, and beat the well-worn path that leads to logical conduct.

265. Some writers likewise rid themselves of non-logical actions by regarding them—often without saying as much explicitly—as scandalous things, or at least as irrelevant things, which should have no place in a well-ordered society. They think of them as "superstitions" that ought to be extirpated by the exercise of intelligence. Nobody, in practice, acts on the assumption that the physical and the moral constitution of an individual do not have at least some small share in determining his behaviour. But when it comes to framing a theory, it is held that the human being *ought* to act rationally, and writers deliberately close their minds to things that the experience of every day holds up before their eyes.

266. The imperfection of ordinary language from the scientific standpoint also contributes to the wide-spread resort to logical interpretations of non-logical conduct.

267. It plays no small part in the common misapprehension whereby two phenomena are placed in a relationship of cause and effect for the simple reason that they are found in company. We have already alluded to that error (§ 255); but we must now advance a little farther in our study of it, for it is of no mean importance to sociology.

Let *C,* as in Figure 3, § 166, stand for a belief; *D,* for certain behaviour. Instead of saying simply, "Some people do *D* and believe *C,*" ordinary speech goes farther and says, "Some people do *D because* they believe *C.*" Taken strictly, that proposition is often false. Less often false is the proposition, "Some people believe *C because*

they do *D.*" But there are still many occasions when all that we can say is, "Some men do *D* and believe *C.*"

In the proposition, "Some people do *D because* they believe *C,*" the logical strictness of the term "because" can be so attenuated that no relationship of cause and effect is set up between *C* and *D.* We can then say, "We may assume that certain people do *D because* they have a belief *C* which expresses sentiments that impel them to do *D*"; that is because (going back to Figure 3), they have a psychic state *A* that is expressed by *C.* In such a form the proposition closely approximates the truth, as we saw in § 166.

268. Figure 3 can be broken up into three others (Figure 7).

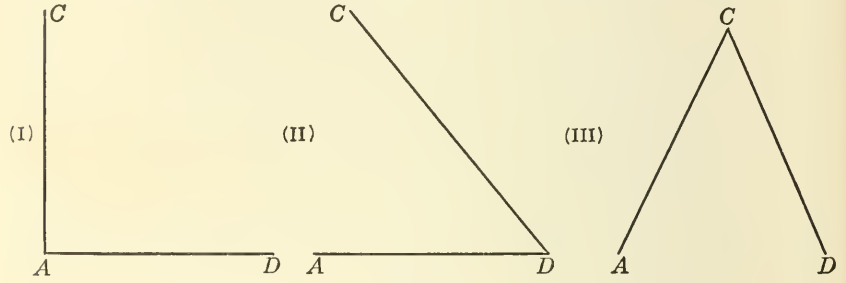

Figure 7

I. The psychic state *A* produces the belief *C* and the conduct *D,* there being no direct relation between *C* and *D.* That is the situation in the proposition, "People do *D* and believe *C.*"

II. The psychic state *A* gives rise to the conduct *D,* and they both produce the belief *C.* That is the situation in the second proposition, "People believe *C* because they do *D.*"

III. The psychic state *A* gives rise to the belief *C,* which produces the behaviour *D.* That is the situation in the proposition, "People do *D* because they believe *C.*"

269. Although case III is not the only case, nor even the most frequent case, people are inclined to regard it as general and to merge with it cases I and II to which they preferably attribute little or no importance. Ordinary language, with its lack of exactness, encourages the error, because a person may state case III explicitly

and be unconsciously thinking meantime of cases I and II. It often happens, besides, that we get mixtures of the three cases in varying proportions.

270. Aristotle opens his *Politics,* I, 1, 1 (Rackham, p. 3), with the statement: "Seeing that every city is a society (Rackham, "partnership") and that every society (partnership) is constituted to the end of some good (for all men work to achieve what to them seems good) it is manifest that all societies (partnerships) seek some good." Here we stand altogether in the domain of logic: with a deliberate purpose—the purpose of achieving a certain good—human beings have constituted a society that is called a city. It would seem as though Aristotle were on the point of going off into the absurdities of the "social contract"! But not so. He at once changes tack, and the principle he has stated he will use to determine what a city *ought* to be rather than what it actually is.

271. The moment Aristotle has announced his principle—an association for purposes of mutual advantage—he tosses it aside and gives an altogether different account of the origin of society. First he notes the necessity of a union between the sexes, and soundly remarks that "that does not take place of deliberate choice" [1]; wherewith, evidently, we enter the domain of non-logical conduct. He continues: "Nature has created certain individuals to command and others to obey." Among the Greeks Nature has so distinguished women and slaves. Not so among the Barbarians, for among the Barbarians, Nature has not appointed any individuals to command. We are still, therefore, in the domain of non-logical conduct; nor do we leave it when Aristotle explains that the two associations of master and slave, husband and wife, are the foundations of the family, that the village is constituted by several families, and that several villages form a state; nor when, finally, he concludes with the explicit declaration that "Every city, therefore, like the original associations, comes of Nature." [2] One could not allude to non-logical actions in clearer terms.

271 [1] *Politica,* I, 1, 4 (Rackham, p. 5): *καὶ τοῦτο οὐκ ἐκ προαιρέσεως . . .*

271 [2] I, 1, 8 (Rackham, p. 9): *Διὸ πᾶσα πόλις φύσει ἐστίν, εἴπερ καὶ αἱ πρῶται κοινωνίαι.*

272. But, alas, if the city comes of Nature, it does not come of the deliberate will of citizens who get together for the purpose of achieving a certain advantage! There is an inconsistency between the principle first posited and the conclusion reached.[1] Just how Aristotle fell into it we cannot know, but to accomplish that feat for oneself, one may proceed in the following fashion: First centre exclusively on the idea of "city," or "state." It will then be easy to connect city, or state, with the idea of "association," and then to connect association with the idea of *deliberate* association. So we get the first principle. But now think, in the second place, of the many many facts observable in a city or a state—the family, masters and slaves, and so on. Deliberate purpose will not fit in with those things very well. They suggest rather the notion of something that develops naturally. And so we get Aristotle's second description.

273. He gets rid of the contradiction by metaphysics, which never withholds its aid in these desperate cases. Recognizing non-logical conduct, he says, I, 1, 12 (Rackham, pp. 11-13): "It is therefore manifest that the city is a product of Nature and is superior (prior) to man (to the individual). From Nature accordingly comes the tendency (an impulse) in all men toward such association. Therefore the man who first founded one was the cause of a very great good." So then, there is the inclination imparted by Nature; but it is further necessary that a man found the city. So a logical action is grafted upon the non-logical action (§ 306, I-β); and there is no help for that, for, says Aristotle, Nature does nothing in vain.[1] Our best thanks, therefore, to that estimable demoiselle for so neatly rescuing a philosopher from a predicament!

272 [1] Similar contradictions are observable in metaphysical and theological disputes as to "free will," "predestination," "efficacious grace" (§ 280), and the like. Pascal well ridicules some of these incoherences; but, speaking as a metaphysicist and theologian himself, he replaces them with arguments that are worth but little more, and sometimes less. He had begun by saying, *Lettres à une provinciale,* I, p. 6: "I never quarrel over names, provided I am told what meanings they are given"; and with that he was almost taking his stand within the domain of logico-experimental science (§ 119). But he soon relapses, to go back to the domain of metaphysics, theology, sentiment.

273 [1] I, 1, 10 (Rackham, p. 11): Οὐθὲν γάρ, ὡς φαμέν, μάτην ἡ φύσις ποιεῖ: Rackham: "does nothing without a purpose."

274. In distinguishing the Greeks from the Barbarians in his celebrated theory of natural slavery, Aristotle avails himself of the concept of non-logical conduct. It is obvious, among other things, that logic being the same for Greeks and Barbarians, if all actions were logical there could not be any difference between Greeks and Barbarians. But that is not all. Good observer that he is, Aristotle notices differences among Greek citizens. Speaking of the forms of democracy he says, VI, 2, 1 (Rackham, pp. 497-98): "Excellent is an agricultural people; consequently one can institute a democracy where a people lives by farming and sheep-raising." And he repeats, VI, 2, 7 (Rackham, p. 503): "Next after farmers, the best people are shepherds, or people who live by owning cattle. . . . The other rabbles on which other sorts of democracy are based are greatly inferior." Here then we get clearly distinguished classes of citizens and almost a rudimentary economic determinism. But there is no reason for our stopping where Aristotle stops; and if we do go on we see that in general the conduct of human beings depends on their temperaments and occupations.

Cicero credits the ancestors of the Romans of his time with knowing that "the characters of human beings result not so much from race and family as from those things which are contributed by the nature of their localities for the ordinary conduct of life, and from which we draw our livelihood and subsistence. The Carthaginians were liars and cheats not by race but from the nature of their country, which with its port and its contacts with all sorts of merchants and foreigners speaking different languages inclined them through love of profits to love of trickery. The mountaineers of Liguria are harsh and uncouth. . . . The Capuans have ever been a supercilious people, because of the fertility of their soil, the wealth of their harvests, the salubriousness, the disposition, and the beauty of their city." [1]

274 [1] *De lege agraria,* II, 35, 95. In combating the Agrarian Law Cicero was trying to persuade his fellow-citizens that a colony established at Capua might become dangerous to Rome. For that reason he may not have been altogether convinced by his own argument. But we need not go into that. We are trying to ascertain not Cicero's personal views, but the opinions current in his time. And if he used the

275. In his *Rhetoric,* II, 12-14 (Freese, pp. 247-57), Aristotle makes an analysis, which came to be celebrated, of the traits of man according to age—in adolescence, in maturity, and in senility. He pushes his analysis further still, II, 12, 17 (Freese, pp. 257-63), and examines the effects on character of noble birth, wealth, and power—a splendidly conducted study. But all that evidently carries him into the domain of non-logical conduct.[1]

argument he used, it means that he thought it reflected the feeling of a larger or smaller element among Roman citizens.

275 [1] One may also detect a certain conception of non-logical conduct in the fact that Aristotle ascribes the virtues—temperance, justice, courage, and so on—to the non-rational part of the human being, *Magna moralia,* I, 5, 1 (Stock, p. 1185-b): "Foresight, intelligence (quickness of wit), wisdom, learning (aptitude for learning), memory, and other similar things arise in the rational part [of the soul]. In the non-rational one finds what are called the virtues: temperance, justice, energy, and all other moral qualities that are deemed worthy of praise." Aristotle's doctrine of the logical or non-logical character of conduct in general was perhaps not very clear—such doctrines rarely are. All the same he seems to have recognized non-logical elements, supplementing them with logical elements, and subordinating them to the logical. In the *Politica,* VII, 12, 6 (Rackham, p. 601), he says that three things make a man good and virtuous: φύσις, ἔθος, λόγος: "nature, habit, reason." As for the non-logical element, Aristotle admits that human beings act, in part at least, under the influence of external circumstances, such as climate, soil, and so on. In *Ibid.,* VII, 6 (Rackham, pp. 565-66), he clearly relates the conduct of human beings to such circumstances; and in *De partibus animalium,* II, 4 [An erroneous reference: read: *Historia animalium,* VIII, 28-29 (Thompson, pp. 606-07).—A. L.], he explains just how he thinks the relationship functions, in general, for living beings. The author (Aristotle ?) of the *Problemata,* offers, XIV (Forster, pp. 909-10), additional reflections on such relationships. So far we are within the domain of the non-logical. But the writer at once takes steps to be rid of it by a procedure that is general and which lies in subordinating it to logic: it becomes the material with which reason works. *Magna moralia,* I, 11, 3 (Stock, p. 1187-b): "Judgment, will, and all that is in accord with reason, constitute the principle of conduct, good or bad." Aristotle is not aware that in that he is contradicting what he said, in the *Politica,* that people who live in cold countries are courageous. In this case, the "principle" of courageous action, that is to say, the "judgment and will" to expose oneself to peril, is determined, according to Aristotle, by climate and not by "reason." He thinks he clears his traces by saying, *Magna moralia,* I, 11, 5 (Stock, *loc. cit.*), that first requisite is help from nature, and next will; but ignoring any metaphysical question as to the freedom of the will, which we choose not to go into, we still have the problem, first of knowing whether the two things that he considers independent are so in reality, and then in what proportions they figure in any concrete act. Going into that problem, one finds that there is conduct in which the first element, the non-logical, prevails, and other conduct in which the second element, the logical, prevails.

Aristotle was lured from the scientific path, aside from metaphysical considera-

276. Aristotle even has the concept of evolution. In the *Politics,* II, 5, 12 (Rackham, pp. 129-31), he remarks that the ancestors of the Greeks probably resembled the vulgar and ignorant among his contemporaries.

277. Had Aristotle held to the course he in part so admirably followed, we would have had a scientific sociology in his early day. Why did he not do so? There may have been many reasons; but chief among them, probably, was that eagerness for premature practical applications which is ever obstructing the progress of science, along with a mania for preaching to people as to what they ought to do—an exceedingly bootless occupation—instead of finding out what they actually do. His *History of Animals* avoids those causes of error, and that perhaps is why it is far superior to the *Politics* from the scientific point of view.

278. It might seem strange to find traces of the concept of non-logical conduct in a dreamer like Plato; yet there they are! The notion transpires in the reasons Plato gives for establishing his colony far from the sea. To be near the sea begins by "being sweet" but ends by "being bitter" for a city: "for filling with commerce and traffic it develops capricious, untrustworthy instincts, and a breed of tricksters."[1] Non-logical conduct has its place also in the well-known apologue of Plato on the races of mankind. The god who fashioned men mixed gold into the composition of those fit to govern, silver in guardians of the state (the warriors), iron in tillers of the soil and labourers. Plato also has a vague notion of what we are to call class-circulation, or circulation of *élites* (§§ 2026 f.). He knows that individuals of the silver race may chance to be born in the race of gold, or *vice versa,* and so for the other races.[2]

tions, by that great enemy of all social science: the mania for achieving some practical result. In the *Ethica Nicomachea,* II, 2, 1 (Rackham, p. 75), he says that he does not desire to confine himself to theory only: "For we study not to know what virtue is, but to become good; otherwise our study would be of no use." Aristotle had no other means of influencing others than logical argument; and so he was, as he had to be, inclined to make logic the controlling force in human conduct.

278 [1] *De legibus,* IV. Aristotle, *Politica,* VII, 5, also discusses the advantages and disadvantages of proximity to the sea.

278 [2] *Respublica,* III, 21, 415A. And *cf.* my *Systèmes socialistes,* Vol. I, p. 276.

279. That being the case, if one would remain within the domain of science, one must go on and investigate the probable characteristics and the probable evolution of a society made up of different races of human beings, which are not reproduced from generation to generation with exactly the same characteristics and which are able to mix. That would be working towards a science of societies. But Plato has a very different purpose. He is little concerned with what is. He strains all his intellectual capacities to discover what *ought* to be. And thereupon non-logical conduct vanishes, and Plato's fancy goes sporting about among logical actions, which he invents in great numbers; and we find him at no great cost to himself appointing magistrates to put individuals who are born in a class but differ in traits from their parents in their proper places, and proclaiming laws to preserve or alter morals—in short, deserting the modest province of science to rise to the sublime heights of creation.

280. The controversies on the question "Can virtue be taught?" also betray some distant conception of non-logical conduct. According to the documents in our possession, it would seem that Socrates regarded virtue as a science and left little room for non-logical actions.[1] Plato and Aristotle abandon that extreme position. They hold that a certain natural inclination is necessary to "virtue." But that inclination once premised, back they go to the domain of logic, which is now called in to state the logical implications of temperament, and these in their turn determine human conduct. Those

280 [1] Ritter, *Geschichte der Philosophie alter Zeit,* Vol. III, p. 305 (Morrison, Vol. III, pp. 262-63): "More interested in didacticism than in physic, Socrates sought the principle of all morality strictly in dialectic. So virtue, in his opinion, had no other foundaton than reason and knowledge. But Plato already had found that courage and moderation, two necessary phases of virtue, must pre-exist in the temperament of the human being, whose impulses lie in the heart, not in the head. Aristotle went even farther in that direction and clung more tightly still to physic, for which he had a temperamental predilection. As the first principle of virtue he takes not reason but natural impulse and the emotional states of the soul (*πάθη*)." Zeller, *Philosophie der Griechen,* Vol. III, p. 118 (missing in Alleyne): [For Socrates] "knowledge is not just an indispensable prerequisite, not just an auxiliary, to true morality: it directly constitutes all morality; and when knowledge is lacking, he is not content with the mere recognition of an imperfect virtue: he cannot see any virtue at all. Not till later on, in Plato, and more completely in Aristotle, will we find a correction of that narrow form of the Socratic doctrine of virtue."

old controversies have points of resemblance with the disputes which took place long afterwards on "efficacious," and "non-efficacious," grace.

281. The procedure of Plato and Aristotle in the controversies on the teaching of "virtue" is a general one. Non-logical actions are credited with a rôle that it would be absurd not to give them, but then that rôle is at once withdrawn, and people go back to the logical implications of inclinations; and by dividing those inclinations, which in fact cannot be ignored, into "good" ones and "bad" ones, a way is found to keep inclinations that are in accord with the logical system one prefers and to eliminate all others.

282. St. Thomas tries to steer a deft course between the necessity of recognizing certain non-logical inclinations and a great desire to give full sway to reason, between the determinism of non-logical conduct and the doctrine of free will that is implicit in logical conduct. He says that "virtue is a good quality or disposition (*habitus*) of the soul, whereby one lives uprightly, which no one uses wrongly, and which God produces within us apart from any action by ourselves." [1] Taken as a "disposition of the soul" virtue is classed with non-logical actions; and so it is when we say that God produces it in us apart from anything we do of ourselves. But by that divine interposition any uncertainty as to the character of non-logical conduct is removed, for it becomes logical according to the mind of God and therefore logical for the theologians who are so fortunate as to know the divine mind. Others use Nature for the same purpose and with the same results. People act according to certain inclinations. That reduces the rôle of the non-logical to a minimum, actions being regarded as logical consequences of the inclinations. Then even that very modest remnant is made to vanish as by sleight-of-hand; for inclinations are conceived as imparted by some entity

282 [1] *Summa theologiae,* Ia IIae, *qu.* 55, *art.* 4 (*Opera,* Vol. VI, p. 353): *"Virtus est bona qualitas seu habitus mentis qua recte vivitur et qua nullus male utitur et quam Deus in nobis sine nobis operatur."* The non-logical character of certain conduct is more clearly perceived in a following remark by the Angelic Doctor: "But it should be noted that of the active dispositions (*habituum operativorum*) some are always towards the bad, such as vicious inclinations; some are now towards the good, now towards the bad, much as opinion stands towards the true and the false."

(God, Nature, or something else) that acts logically (§ 306, I-β); so that even though the acting subject may on occasion believe that his actions are non-logical, those who know the mind, or the logical procedure, of the entity in question—and all philosophers, sociologists, and the like, have that privilege—know that all conduct is logical.

283. The controversy between Herbert Spencer and Auguste Comte brings out a number of interesting aspects of non-logical conduct.

284. In his *Lectures on Positive Philosophy* (*Cours de philosophie positive*) Comte seems to be decidedly inclined to ascribe the predominance to logical conduct. He sees in positive philosophy, Vol. I, pp. 48-49, "the one solid basis for that social reorganization which is to terminate the critical state in which civilized nations have been living for so long a time." So then it is the business of theory to reorganize the world! How is that to come about? "Not to readers of these lectures should I ever think it necessary to prove that ideas govern and upset the world, or, in other terms, that the whole social mechanism rests, at bottom, on opinions. They are acutely aware that the great political and moral crisis in present-day society is due, in the last analysis, to our intellectual anarchy. Our most serious distress is caused by the profound differences of opinion that at present exist among all minds as to all those fundamental maxims the stability of which is the prime requisite for a real social order. So long as individual minds fail to give unanimous assent to a certain number of general ideas capable of constituting a common social doctrine, we cannot blind ourselves to the fact that the nations will necessarily remain in an essentially revolutionary atmosphere. . . . It is just as certain that if this gathering of minds to one communion of principles can once be attained, the appropriate institutions will necessarily take shape from it."

285. After quoting Comte's dictum that ideas govern and upset the world, Herbert Spencer advances a theory that non-logical actions alone influence society. "Ideas do not govern and overthrow the world: the world is governed or overthrown by feelings,

to which ideas serve only as guides. The social mechanism does not rest finally upon opinions; but almost wholly upon character. Not intellectual anarchy, but moral antagonism, is the cause of political crises. All social phenomena are produced by the totality of human emotions and beliefs. . . . Practically, the popular character, and the social state, determine what ideas shall be current; instead of the current ideas determining the social state and the character. The modification of men's moral natures caused by the continuous discipline of social life, which adapts them more and more to social relations, is therefore the chief proximate cause of social progress." [1]

286. Then a curious thing happens: Comte and Spencer reverse positions reciprocally! In his *System of Positive Polity,* Vol. IV, p. 5, Comte decides to allow sentiment to prevail, and expresses himself very clearly on the point: "Though I have always proclaimed the universal preponderance of sentiment, I have had, so far, to devote my attention primarily to intelligence and activity, which prevail in sociology. But the very real ascendancy they have acquired having now brought on the period of their real systematization, the final purpose of this volume must now be to bring about a definite predominance of sentiment, which is the essential domain of morality."

Comte is straining the truth a little when he says that he has "*always* proclaimed the universal preponderance of sentiment." No trace of any such preponderance is to be detected in his *Cours.* Ideas stand in the forefront there. But Comte has changed. He began by considering existing theories, which he wished to replace with others of his own make; and in that battle of ideas, his own naturally won the palm, and from them new life was to come to the world. But time rolls on. Comte becomes a prophet. The battle of ideas is over. He imagines he has won a complete victory. So now he begins proclaiming dogma, pronouncing *ex cathedra,* and it is only natural that nothing but sentiments should now be left on the field—his own sentiments, of course.[1]

285 [1] *The Classification of the Sciences,* Addendum, pp. 37-38.

286 [1] Comte is to an extent aware of the evolution he has undergone, *Système,* Vol. III, Preface, p. vii: "Comparing this volume with the historical portions of my fundamental treatise, it will be noted that my general system is deeper and more

287. Comte, moreover, began by hoping to make converts of people; and naturally the instrument for doing that was, at the time, ideas. But he ended by having no hope save in a religion imposed by force, imposed if need be by Czar Nicholas, by the Sultan, or at the very least by a Louis Napoleon (who would in fact have done better to rest content with being just a dictator in the service of Positivism).[1] In this scheme sentiment is the big thing beyond shadow of doubt, and one can no longer say that "ideas govern or upset the world." It would be absurd to suppose that Comte turned to the Czar, to Reshid Pasha, or to Louis Napoleon, to induce them merely to preach ideas to their peoples. One might only object that the ideas of Comte would be determining the religion which would later be imposed upon mankind; and in that case ideas would be "upsetting the world," if the Czar, the Sultan, Louis Napoleon, or some other well-intentioned despot saw fit to take charge of enforcing Comte's positivism upon mankind. But that is far from

complete, whereas my special demonstrations are less developed. From the latter point of view, this final elaboration of my philosophy of history is at variance with my original announcements, which promised more details and proofs in this volume than in my first outlines, to which, instead, I am now obliged to refer for such things. Brought to a clearer understanding of the true character of the philosophical régime, I have come to feel that systematic assertions, which I first regarded as something merely provisory, should be the normal rule of any truly systematic exposition. The progress I have made and the prestige it has won for me allow me in my advancing years to fall in with the free and rapid stride of my chief predecessors, Aristotle, Descartes, and Leibnitz, who simply formulated their thoughts, leaving the task of verifying and developing them to their readers. That division of labour in intercourse between minds is at once the most honourable for the initiated and the most profitable for founders." And in this last, Comte is unquestionably right! It is no little convenience if one can manage to be believed without being pestered for proofs!

287 [1] *Système,* Vol. IV, pp. 377-78: "To modify public life, it is enough for [the Priesthood of Humanity] that circumstances shall have brought to the fore some preponderant and responsible will. That condition has been fairly well provided for in France since the advent of the Dictatorship, which frees organized doctrine from the irksome obligation of deferring to legislatures that are ever disposed to perpetuate a revolutionary condition, even when they are reactionary. . . . Without having to convert either the public or its leaders, Positivism, therefore, in virtue of its fundamental truth and its utter seasonableness, can win a partial ascendancy adequate for realizing the final transition, even unbeknown to the principal supporters of the movement." An action that takes place unbeknown to the individual who performs it obviously belongs to the genus of non-logical actions.

being the meaning one gathers from the statements in the *Cours.*

288. Comte recognizes, in fact he greatly exaggerates, the social influence of public worship and its efficacy in education—all of which is just a particular case of the efficacy of non-logical impulses. If Comte could have rested satisfied with being just a scientist, he might have written an excellent book on the value of religions and taught us many things. But he wanted to be the prophet of a new religion. Instead of studying the effects of historical or existing forms of worship, he wanted to create a new one—an entirely different matter. So he gives just another illustration of the harm done to science by the mania for practical applications.

289. Spencer, on the other hand, after admitting, even too sweepingly, the influence of non-logical actions, eliminates them altogether by the general procedure described in § 261. Says he: "Our postulate must be that primitive ideas are natural, and, under the conditions in which they occur, rational." [1] Driven out by the door, logic here climbs back through the window. "In early life we have been taught that human nature is everywhere the same. . . . This error we must replace by the truth that the laws of thought are everywhere the same; and that, given the data as known to him, the primitive man's inference is the reasonable inference" (§§ 701, 711).

290. In assuming any such thing, Spencer puts himself in the wrong in his controversy with Comte. If human beings always draw logical inferences from the data they have before them, and if they act in accordance with such inferences, then we are left with nothing but logical conduct, and it is ideas that "govern or upset the world." There is no room left for those sentiments to which Spencer was disposed to attribute that capacity; there is no way for them to crowd into a ready-made aggregate composed of experimental facts, however badly observed, and of logical inferences derived from such facts.

291. The principle advanced by Spencer makes sociology very easy, especially if it be combined with two other Spencerian principles: unitary evolution, and the identity, or quasi-identity, of the

289 [1] *Principles of Sociology,* Vol. I, § 52.

savages of our time with primitive man (§§ 728, 731). Accounts by travellers, more or less accurate and more or less soundly interpreted, give us, Spencer thinks, the data that primitive man had at his disposal; and where such accounts fail, we fill in the gaps with our imagination, which, when it cannot get the real, takes the plausible. That gives us all we need for a sociology, for we have only to determine the logical implications of the data at hand, without wasting too much time on long and difficult historical researches.

292. In just that way Spencer sets about discovering the origin and evolution of religion. His primitive man is like a modern scientist working in a laboratory to frame a theory. Primitive man of course has very imperfect materials at his disposal. That is why, despite his logical thinking, he can reach only imperfect conclusions. All the same he gets some philosophical notions that are not a little subtle. Spencer, *Ibid.,* Vol. I, § 154, represents as a "primitive" idea the notion that "any property characterizing an aggregate inheres in all parts of it." If you are desirous of testing the validity of that theory you need only state the proposition to some moderately educated individual among your friends, and you will see at once that he will not have the remotest idea of what you are talking about. Yet Spencer, *loc. cit.,* believes that your friend will go on and draw logical conclusions from something he does not understand: "The soul, present in the body of the dead man preserved entire, is also present in preserved parts of his body. Hence the faith in relics." Surely Spencer could never have discussed that subject with some good Catholic peasant woman on the Continent. The argument he maps out might possibly lead a philosopher enamoured of logic to believe in relics, but it has nothing whatever to do with popular beliefs in relics.

293. So Spencer's procedure has points of similarity with Comte's procedure. In general terms, one might state the situation in this fashion: we have two things, P and Q (Figure 8), that have to be considered in determining the social order R. We begin by asserting that Q alone determines that order; then we show that P determines Q. So Q is eliminated, and P alone determines the social order.

294. If Q designates "ideas" and P "sentiments," we get, roughly, the evolution of Comte's theories. If Q designates "sentiments" and P "ideas," we get, roughly, the evolution of Spencer's theories.

295. That is confirmed by the remarks of John Stuart Mill on the controversy between Comte and Spencer. Says he:[1] "It will not be found, on a fair examination of what M. Comte has written, that he has overlooked any of the truth that there is in Mr. Spencer's theory. He would not indeed have said (what Mr. Spencer apparently wishes us to say) that the effects which can be historically traced, for example, to religion, were not produced by the belief in God, but by reverence and fear of Him. He would have said that the reverence and fear presuppose the belief: that a God must be believed in before he can be feared or reverenced." That is the very procedure in question! P is the belief in God; Q, sentiments of fear and reverence; P produces Q, and so becomes the cause determining conduct!

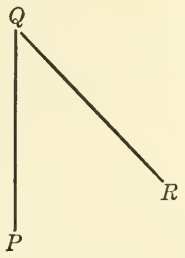

Figure 8

296. To a perfect logician like Mill it seems absurd that anyone could experience fear unless the feeling be logically inferred from a subject capable of inspiring fear. He should have remembered the verse of Statius,

"Primus in orbe deos fecit timor,"[1]

and then he would have seen that a course diametrically opposite is perfectly conceivable.[2] That granted, what was the course pursued

295 [1] *The Positive Philosophy of Auguste Comte,* p. 96 (London, p. 103).

296 [1] *Thebaid,* III, v. 661. The scholiast Lactantius [read Luctatius Placidus; see Knaack, *Rhenisches Museum für Philologie,* Vol. 56, p. 166.—A. L.] annotates [not very keenly] (Leyden, p. 406): "He says that the gods are worshipped for no other reason than the fear of mortals. As Lucan says, *Pharsalia,* I, v. 486: 'They fear inventions of their own devising' (*quae finxere timent*). Petronius [*Fragmenta,* XXVII] follows Statius: 'Fear first created gods on earth.' And Mintanor Musicus writes: '. . . the gods, whom humanity first invented under sting of pain.' "

296 [2] Holbach, *Système de la nature,* Vol. I, pp. 448, 456: "Mankind has ever derived its basic ideas on divinity from ignorance, fear, and calamity. . . . Man's earliest theology taught him first to fear and worship the elements themselves, and crude material objects."

in reality? Or better, what were the various courses pursued? It is for historical documents to answer, and we cannot let our fancy take the place of documents and pass off as real anything that seems plausible to us. We have to know how things actually took place, and not how they should have taken place, in order to satisfy a strictly logical intelligence.[3]

297. In other connexions, Mill is perfectly well aware of the social importance of non-logical actions. But he at once withdraws the concession, in part at least, and instead of going on with what is, turns to speculations as to what ought to be. That is the general procedure; and many writers resort to it to be rid of non-logical conduct.

298. In his book *On Liberty,* p. 16, Mill writes, for example: "Men's opinions . . . on what is laudable or blameable, are affected by all the multifarious causes which influence their wishes in regard to the conduct of others, and which are as numerous as those which determine their wishes on any other subject: sometimes their reason —at other times their prejudices or superstitions: often their social affections, not seldom their antisocial ones, their envy or jealousy, their arrogance or contemptuousness: but most commonly, their desires or fears for themselves—their legitimate or illegitimate self-interest. Wherever there is an ascendant class, a large portion of the morality of the country emanates from its class interests, and its feelings of class superiority."

All that, with a few reservations, is well said and approximately pictures the facts.[1] Mill might have gone on in that direction, and inquired, since he was dealing with liberty, into the relations of liberty to the motives he assigns to human conduct. In that event, he might have made a discovery: he might have seen that he was involved in a contradiction in trying with all his might to transfer political power to "the greatest number," while at the same time

296 [3] We noted Cicero's view of the practices of Roman divination in § 182[3]: *De divinatione,* I, 3, 3: *"Atque haec, ut ego arbitror, veteres rerum magis eventis moniti quam ratione docti probaverunt."* That is very often the case: the fact, the non-logical action, comes first, then the explanation of the fact, the logical varnish.

298 [1] The reservations relate to Mill's not very exact use of terms such as "legitimate" and "illegitimate." But Mill cannot be specially blamed for that. It is a defect common to almost all writers who deal with such subjects.

defending a "liberty" that was incompatible with the prejudices, sentiments, and interests of said "greatest number." That discovery would then have enabled him to make a prophecy—one of the fundamental functions of science; namely, to foresee that liberty, as he conceived it, was progressively to decline, as being contrary to the motives that he had established as determinants of the aspirations of the class which was about to become the ruling class.

299. But Mill thought less of things as they are than of things as they ought to be. He says, *Ibid.,* p. 22: "He [a man] cannot rightfully be compelled to do or forbear because it will be better for him to do so, because it will make him happier, because, in the opinions of others, to do so would be wise, or even right. These are good reasons for remonstrating with him, or reasoning with him, or persuading him, or entreating him, but not for compelling him, or visiting him with any evil in case he do otherwise." [1]

299 [1] Mill, innocent soul, goes on to say, *loc. cit.:* "To justify that [such constraint], the conduct from which it is desired to deter him must be calculated to produce evil to someone else." He did not realize that sophistries are never wanting to show that the damage is there. Notice what happens in countries where people set out to enforce temperance and virtue in the holy name of "Progress": *Giornale d'Italia,* March 19, 1912: "Atlanta, Georgia, March 2. Last evening *Commendatore* Alessandro Bonci, who was stopping here temporarily in connexion with professional engagements, was arrested at the Georgian Terrace Hotel, together with his wife, his secretary, and his pianist, for violating the liquor law. It seems that Signor Bonci and his friends, like good Italians, who serve wine two meals a day at least, had adopted an ingenious device for doing so in spite of the law that forbids the use of wines and liquors in the State of Georgia. For several days the manager of the hotel had noticed that towards the middle of their meals the Boncis and their friends were in the habit of setting on the table four little bottles such as are used by druggists, with labels giving directions for using the presumptive 'medicines.' The regularity with which the Bonci party drank the contents of the bottles twice a day, as though each member of it were suffering from the same disease and required the same treatment, at length aroused the suspicions of the house detective. He mentioned the matter to a zealous policeman, who last evening, when the time for the 'treatment' came, confiscated the bottles. Each of them was found to have the capacity of a wine-glass and to contain nothing but excellent Chianti, with which, it seems, *Commendatore* Bonci travels well supplied in order to cope with the surprises of American law. Despite the lively protestations of Signor Bonci, the four offenders were put into an automobile and taken to the Court House, where Judge Ralendorf, after a summary inquiry, continued the case till this morning, fixing bail at $2,000. Then came the best, not to say the worst, of it. The celebrated

That may be a "good justice," but it is not the justice handed out to us by our masters, who each year favour us with new laws to prevent our doing the very things that Mill says people should be allowed to do. His preaching, therefore, has been altogether without effect.

300. In certain writers the part played by non-logical actions is suppressed altogether, or rather, is regarded merely as the exceptional part, the "bad" part. Logic alone is a means to human progress. It is synonymous with "good," just as all that is not logical is synonymous with "evil." But let us not be led astray by the word "logic." Belief in logic has nothing to do with logico-experimental science; and the worship of Reason may stand on a par with any other religious cult, fetishism not excepted.

301. Condorcet expresses himself as follows:[1] "So a general knowledge of the natural rights of man; the opinion, even, that such rights are inalienable and unprescribable; a prayer voiced aloud for liberty of thought and press, for freedom of commerce and industry, for succour of the people . . . indifference to all religions —classified, at last, where they belong with superstitions and political devices [The good soul fails to notice that his worship of Progress is itself a religion!]—hatred and hypocrisy and fanaticism; contempt for prejudices; zeal for the propagation of enlightenment —all became the common avowal, the distinguishing mark, of anyone who was neither a Machiavellian nor a fool." Preaching re-

tenor found he had no more than $150 in his pocket, and he was faced with the prospect of spending the night in jail."

We may guess that if Signor Bonci had remembered that the ointment of St. John Goldmouth may be used on the hands of American reformers with as good effect as it had in Boccaccio's time on the hands of our virtuous Italian Inquisitors, he might have escaped such annoyance. In general terms: You happen to be in the dining-car when the train enters one of the abstemious states of the American Union, and the glass of wine that you were about to drink is snatched from the table in front of you. If you ask, "What harm am I doing to my neighbour by drinking this glass of wine?", the answer comes quick and prompt: "You are setting a bad example!" And the rabble that enforces its will upon you in that fashion speaks with indignation of Spanish Catholics who, to prevent setting bad examples, refuse to tolerate in Spain any public worship except the Roman Catholic!

301 [1] *Esquisse d'un tableau historique des progrès de l'esprit humain,* pp. 264-65.

ligious toleration, Condorcet is not aware that he is betraying an intolerance of his own when he treats dissenters from his religion of Progress the way the orthodox have always treated heretics. It is true that he considers himself right and his adversaries wrong, because his own religion is good and theirs bad; but that, inverting terms, is exactly what they say too.

302. Maxims from Condorcet and other writers of his time are still quoted by humanitarian fanatics today. Condorcet continues, p. 292: "All errors in politics and morals are based on philosophical errors, which are in turn connected with errors in physic. There is no religious system, no supernatural extravagance, that is not grounded on ignorance of the laws of nature." But he himself gives proof of just such ignorance when he tries to have us swallow absurdities like the following, p. 345: "What vicious practice is there, what custom contrary to good faith, nay, what crime, that cannot be shown to have its cause and origin in the laws, the institutions, the prejudices, of the country in which that practice, that custom, is observed, that crime committed?" And he concludes finally, p. 346, that "nature links truth, happiness, and virtue with chain unsunderable."

303. Similar ideas are common among the French *philosophes* of the later eighteenth century. In their eyes every blessing doth from "reason" flow, every ill from "superstition." Holbach sees the source of all human woe in error;[1] and that belief has endured as one of

303 [1] *Système de la nature,* Vol. I, pp. 398-409: *"The errors of mankind as to what constitutes happiness are the real source of its troubles. Inefficacy of proposed remedies.* . . . If we consult experience, we see that the real source of that multitude of woes that everywhere afflict the human race is to be sought in sacred opinions and illusions. Ignorance of natural causes first created gods for humanity: imposture clothed them with terror. The deadly thought of them pursued the human being without making him better, filled him with fears to no purpose, packed his mind with nightmares, blocked the progress of his intelligence, prevented him from seeking his own welfare. His fears enslaved him to deceivers who made pretence of working his weal. . . . Prejudices no less dangerous have blinded men as to their rulers. . . . A similar blindness we find in the science of morals. . . . So humanity's burden of woe has no whit been lightened, but has been made heavier rather by his religions, his governments, his education, his opinions, in a word by all the institutions that he has been persuaded to adopt [By whom persuaded? By someone

the dogmas of the humanitarian religion, holiest of holies, of which our present-day "intellectuals" form the priesthood.[2]

304. All these people fail to notice that the worship of "Reason," "Truth," "Progress," and other similar entities is, like all cults, to be classed with non-logical actions. It was born, it has flourished, and it continues to prosper, for the purpose of combating other cults, just as in Graeco-Roman society the oriental cults arose out of opposition to the polytheistic cult..At that time one same current of non-logical conduct found its multiple expression in the *taurobolium,* the *criobolium,* the cult of Mithras, the growing importance of mysteries, Neo-Platonism, mysticism, and finally Christianity, which was to triumph over rival cults, none the less borrowing many things from them. So, toward the end of the eighteenth century and the beginning of the nineteenth, one same current of non-logical conduct finds its expression in the theism of the *philosophes,* the sentimental vagaries of Rousseau, the cult of "Reason" and the "Supreme Being," the love of the First Republic for the number 10, theophilanthropy (of which the "positivist" religion of Comte is merely an offshoot), the religion of Saint-Simon, the religion of pacifism, and other religions that still survive to our times.

These considerations belong to a much more comprehensive order, properly relating to the *subjective* aspect of theories indicated in § 13. In general, in other words, we have to ask ourselves why and how individuals come to evolve and accept certain theories. And, in particular, now that we have identified one such purpose—the purpose of giving logical status to conduct that does not possess it —we have to ask by what means and devices that purpose is achieved. From the objective standpoint, the error in the arguments

not of the human species?] on pretence that his lot would be made more bearable. It cannot be too often repeated: In error lies the true source of the ills that afflict the human race. Not with Nature lies the responsibility for human unhappiness. No angry God ever willed that humanity should live in tears. No hereditary depravity made mortals wicked and miserable. Those deplorable consequences are all and exclusively due to error."

303 [2] Elie Reclus, *Les primitifs,* p. 161: "Since morality is measured, along its general lines at least, by intellectual development, no surprise will be occasioned by finding it very rudimentary here [among the Redskins]."

just noted lies in their giving an *a priori* answer to the questions stated in § 14, and in maintaining that a theory needs simply to be in accord with the facts to be advantageous to society. That error is usually supplemented by the further error of considering facts not as they stand in reality but as they are pictured by the exhilarated imagination of the enthusiast.

305. Our induction so far has shown from some few particular cases the prevalence of a tendency to evade consideration of non-logical actions, which nevertheless force themselves upon the attention of anyone undertaking to discuss human societies; and also the no mean importance of that tendency. Now we must look into it specially and in general terms.[1]

306. So let us now examine the various devices by which non-logical actions are eliminated so that only logical actions are left: and suppose we begin as usual by classifying the objects we are trying to understand.

CLASS A [1]

The principles [2] underlying non-logical actions are held to be devoid of any objective reality (§§ 307-18).

305 [1] Farther along, in Chapter IX, we shall have to consider a still more general subject—the variability of the arguments to which human beings are prompted by sentiments, and which provide logical exteriors for non-logical conduct. A strictly inductive course, such as we have been following, brings up the particular problem in advance of the general. That has the drawback of compelling us to examine the particular problem first, and to keep going back to things on which we have already touched. It has, on the other hand, the great advantage of making the materials we work with clearer and more manageable.

306 [1] [One need hardly remind the reader that these synoptic pictures of Pareto's classifications are unintelligible apart from the exposition *seriatim* of the various categories that he proceeds to make. They have to be continually re-read in connexion with the text that follows. This table is particularly obscure in itself, not only because of exceptionally opaque writing but because implicit in it is another classification that Pareto for some reason does not see fit to utilize. It is clear that the devices in Class A are used from a sceptical standpoint to discredit beliefs on logical grounds. The B-I and B-III devices are used by believers to represent their beliefs as logical. The other devices are "errors" commonly made by scholars in viewing the non-logical as logical. I use the term "device" for the sake of clarity; Pareto's term was "means." Whatever the term used, it has to be understood as not

306 [2] "Principle" here means the cause to which an action is to be ascribed.

Genera

Genus I. They are disregarded entirely (§§ 307-08)

Genus II. They are regarded as absurd prejudices (§§ 309-11)

Genus III. They are regarded as tricks used by some individuals to deceive others (§§ 312-18)

CLASS B

The principles underlying non-logical actions are credited with now more, now less, objective reality (§§ 319-51)

Genera and Subgenera

Genus I. The principles are taken as completely and directly real (§§ 319-38)

Iα. Precepts with sanctions in part imaginary (§§ 321-33)

Iβ. Simple interposition of a personal god or a personified abstraction (§§ 332-33)

Iγ. The same interposition supplemented by legends and logical inferences (§ 334)

Iδ. Some metaphysical entity is taken as real (§§ 335-36)

Iε. What is real is an implicit accord between the principles and certain sentiments (§§ 337-38)

Genus II. The principles of non-logical conduct are not taken as completely or directly real. Indirectly, the reality is found in cer-

implying any intent to deceive on the part of a person using such a device or means.

Pareto's classifications, which are taken over from botany, envisage classes, genera and subgenera (sometimes species and subspecies). I keep these terms in the tables of classification. In the text at large, to avoid a fatiguing technical atmosphere, I often render "genus" and "species" loosely as "type," "kind," "sort," or more generally "variety": the "Iβ variety," or "Iβ type" would be, in the tables, the "Iβ subgenus," and so on. Pareto makes but little use of the "genus" in the structure proper of his theories, the one exception perhaps being his analysis of the residue of asceticism (§§ 1163 f.). The "class," on the other hand, is essential to his theory of interdependence and intensities (Chapter XII). Since residues increase or diminish in intensities by "classes," and interdependences arise primarily within "classes," it is clear that the structure of the "class" has all along to be borne in mind.—A. L.]

tain facts that are said to be inaccurately observed or imperfectly understood (§§ 339-50)

IIα. It is assumed that human beings make imperfect observations, and derive inferences from them logically (§§ 340-46)

IIβ. A myth is taken as the reflection of some historical reality that is concealed in one way or another, or else as a mere imitation of some other myth (§§ 347-49)

IIγ. A myth is made up of two parts: a historical fact and an imaginary adjunct (§ 350)

Genus III. The principles of non-logical actions are mere allegories (§§ 351-52)

CLASS C

It is assumed that non-logical actions have no effect on "progress," or else are obstructive to it. Hence they are to be eliminated in any study designed solely to promote "progress" (§§ 353-56).

307. Let us examine these various categories one by one.

Device A-I: *Non-logical actions are disregarded.* Non-logical actions can be disregarded entirely as having no place in the realm of reality. That is the position of Plato's Socrates in the matter of the national religions of Greece.[1] He is asked what he thinks of the ravishing of Orithyia, daughter of Erechtheus, by Boreas. He begins by rejecting the logical interpretation that tries to see a historical fact in the myth (IIγ). Then he opines that such inquiries are as fine-spun as they are profitless, and falls back on the popular belief. On common belief the oracle at Delphi also relied when it prescribed that the best way to honour the gods was for each to follow the customs of his own city.[2] Certainly the oracle in no wise meant by that

307 [1] *Phaedrus,* 229-30 (Fowler, pp. 419-23).

307 [2] The fact is mentioned by Xenophon's Socrates. *Memorabilia,* IV, 3, 16: "Since thou seest that when the god of Delphi is asked how best to please the gods, he replies: *By following the custom of the city.*" Cicero, *De legibus,* II, 16, 40: "Our law shall further provide that of all our ancestral rites the best should be fostered. When the Athenians consulted the Pythian Apollo as to which rites they had better practise, they received the oracle: 'Those customary with the forefathers.' Then they came back again, saying that the custom of the forefathers had often changed, and

that such customs corresponded to things that were not real; yet actually they might as well have, since they were held to be entirely exempt from the verification to which real things are considered subject. That method often amounts to viewing beliefs as non-logical actions to be taken for what they are without any attempt to explain them—the problem being merely to discover the relationship in which they stand towards other social facts. That, overtly or tacitly, is the attitude of many statesmen.

308. So, in Cicero's *De natura deorum,* the pontifex Cotta distinguishes the statesman from the philosopher. As pontifex he protests that he will ever defend the beliefs, the worship, the ceremonies, the religion, of the forefathers, and that no argument, be it of scholar or dunce, will ever budge him from that position. He is persuaded that Romulus and Numa founded Rome, the one with his auspices, the other with his religion. "That, Balbus, is what I think, as Cotta and as pontifex. It is now for me to know what you think. From you, a philosopher, I have a right to expect some reason for your beliefs. The beliefs I get from our forefathers I must accept quite apart from any proof." [1] In that it is obvious that as pontifex Cotta deliberately steps aside from the realm of logical reality, which implies a belief either that traditional Roman beliefs have no basis in fact or else that they are to be classed with non-logical actions.[2]

309. Device A-II: *The principles of non-logical actions are regarded as absurd prejudices.* One may consider merely the forms of non-logical actions and finding them irrational, judge them absurd prejudices, at the most deserving of attention from a pathological

they asked which they should prefer of the various ancestral customs; and the god answered: 'The best.' " Cicero appends a logical consideration that has no logical force whatever: "And it is assuredly true that what is best should be taken as the most authentic tradition and the closest to God."

308 [1] III, 2, 5. *Cf. De divinatione,* II, 12, 28: "As regards divination, I think the custom should be cherished for considerations of state and common religion. But here we are in strict privacy and we surely have a right to discuss the matter quite frankly (*sine invidia*), and I in particular, since I have very grave doubts in not a few connexions."

308 [2] [Pareto wrote: "which means either that such [logico-experimental] reality does not exist or that it is of the genus of the principles of non-logical actions."—A. L.]

standpoint as veritable maladies of the human race. That has been the attitude of not a few writers in dealing with legal and political formalities. It is the attitude especially of writers on religion and most of all of writers on forms of worship. It is also the attitude of our contemporary anti-clericals with regard to the Christian religion —and it betrays great ignorance on the part of those bigots, along with a narrow-mindedness that incapacitates them for ever understanding social phenomena.

We have already seen specimens of this type of reasoning in the works of Condorcet (§§ 301-02) and Holbach (§§ 296[2], 303). A more diluted type is observable in disquisitions purporting to make this or that religion "more scientific" (§ 16[2]), on the assumption that a religion which is not scientific is either absurd or reprehensible. So in earlier times there were efforts to remove by subtle interpretation such elements in the legends and cults of the pagan gods as were considered non-logical. It was the procedure of the Protestants during the Reformation, while the liberal Protestants of our day are repeating the same exploits, appealing to their pseudo-science. So also for the Modernists in their criticism of Catholicism, and for our Radical Socialists in their demeanour towards Marxism.

310. If one regards certain non-logical actions as absurd, one may centre chiefly on their ridiculous aspects; and that is often an effective weapon for combating a faith. Frequent use of it was made against established religions from the day of Lucian down to the day of Voltaire. In an article replete with historical blunders, Voltaire says of the religion of Rome: "I am imagining that after conquering Egypt Caesar sends an embassy to China, with the idea of stimulating the foreign trade of the Roman Empire. . . . The Emperor Iventi, first of that name, is reigning at the time. . . . After receiving Caesar's ambassadors with typical Chinese courtesy, he secretly inquires through his interpreters as to the civilization, customs, and religion of these Romans. . . . He learns that the Roman People supports at great expense a college of priests, who can tell you exactly the right time for embarking on a voyage and the very best place for fighting a battle by inspecting the liver of an ox or the

appetite with which chickens eat their barley. That sacred science was brought to the Romans long, long before by a little god named Tages, who was unearthed somewhere in Tuscany. The Roman people worship just one god whom they always call 'Highest and Best.' All the same, they have built a temple to a harlot named Flora; and most Roman housewives have little household gods in their homes, five or six inches high. One of the little divinities is the goddess Nipples, another the god Bottom. . . . The Emperor has his laugh. The courts at Nanking at first conclude, as he does, that the Roman ambassadors are either lunatics or impostors . . . but the Emperor, being as just as he is courteous, holds private converse with the ambassadors. . . . They confess to him that the College of Augurs dates from early ages of Roman barbarism; that an institution so ridiculous has been allowed to survive only because it became endeared to the people in the course of long ages; that all respectable people make fun of the augurs; that Caesar never consults them; that according to a very great man by the name of Cato no augur is ever able to speak to a colleague without a laugh; and finally that Cicero, the greatest orator and best philosopher of Rome, has just published against the augurs a little essay, *On Divination,* in which he hands over to everlasting ridicule all auspices, all prophecy, and all the fortune-telling of which humanity is enamoured. The Emperor of China is curious to read Cicero's essay. His interpreters translate it. He admires the book and the Roman Republic." [1]

310 [1] *Remarques pour servir de Supplément à l'Essai sur les mœurs,* Pt. IV (*Œuvres,* Vol. V, p. 48): "Contemptible customs in a nation do not always indicate that that nation is itself contemptible." Among the blunders mentioned are the following: 1. Cicero's essay *De divinatione* was written after Cæsar's death. But that is a small matter; if one is going to pretend that Cæsar sent ambassadors to China, one may also pretend that he was living when Cicero wrote the essay. 2. The Chinese pantheon was much better filled than the Roman pantheon. That error on Voltaire's part may be forgiven, since it was the error of all the *philosophes* of his time. With a little care, however, he might have avoided the following: 3. Wittingly or unwittingly, he confuses Roman divination with the Etruscan. The god Tages belonged only to the latter. 4. Jupiter Optimus Maximus was by no means the only god in the official cult of Rome. [I cannot believe that Voltaire did not know that. The very glaringness of the error calls attention to a sacrilegious parody of French Christianity in the allusions to Jupiter, Flora, and the Penates.—A. L.] 5. The Penates were not at all the gods of silly housewives. Servius, *In Vergilii Aeneidem,* II, v. 514 (Thilo-

311. In dealing with writings of this kind, we must be careful not to fall into the very error we are here considering, with reference to non-logical actions.[1] The intrinsic value of such satires may be zero when viewed from the experimental standpoint, whereas their polemical value may be great. Those two things we must always keep distinct. Moreover they may have a certain intrinsic value: a group of non-logical actions taken as a whole may be useful for attaining a given purpose without absolutely all of them, taken individually, being useful to that purpose. Certain ridiculous actions

Hagen, Vol. I, p. 298): "The Penates are all the gods worshipped in the home." Rome herself had her Penates. Voltaire would use Cicero against the silly housewives, but Cicero himself invokes the Penates, *Pro Publio Sulla,* 31, 86: "Wherefore, O ye gods of our forefathers, and ye, O Penates, who watch over this city and this country of ours, ye who during my consulship did confer your aid and your divine protection upon this state, upon the Roman People and its liberties, upon these homes, these temples, you do I invoke as witnesses to my integrity and honesty of purpose in appearing in defence of Publius Sulla." *Cf.* also *In Catilinam,* IV, 9, 18. 6. Whether he believed in such things or not, Caesar made a practice of consulting soothsayers. There is an allusion to that in *De divinatione,* I, 52, 119; II, 16, 36, which Voltaire quotes; and *cf.* Dio Cassius, *Historia Romana,* XLIV, 17, 18; Plutarch, *Caesar,* 63-64 (Perrin, Vol. VII, pp. 589-95); Suetonius, *Divus Julius,* 81; Pliny, *Historia naturalis,* XXVIII, 4 (2). To one of Cæsar's superstitions we have previously alluded in § 184 [2]. 7. Cicero does not dream of ridiculing all auspices. He was himself an augur, and speaks of auspices with the greatest respect, *De legibus,* II, 12, 31: "The office of augur stands very high and is of the greatest importance in the state [*i.e.,* in Cicero's ideal state] and it is clothed with the greatest prestige. And that I feel not because I am an augur but because we can think not otherwise." He had little or no regard for the intrinsic merits of augury; but he considered the institution useful to the state and consequently did not ridicule it (*cf.* the quotations in § 313 [1]). 8. Cato was speaking not of the augurs, but of the haruspices: Cicero, *De divinatione,* II, 24, 51: "Familiar the old jest of Cato, who used to express his wonder that one haruspex could ever look at another without laughing." For that matter it is a common error to confuse Roman augury with Etruscan divination by inspection of entrails. Only when they could not help doing so did the Romans appeal to Etruscan divination. Tiberius Gracchus, the father of the Gracchi, on being accused by Etruscan soothsayers, who were functioning at an election, of calling for a vote against the auspices, addressed them as follows: Cicero, *De natura deorum,* II, 4, 11: " 'You say that I am not in order, though I am putting this question as consul and as augur, and under good auspices? And you, Etruscans, you, barbarians—you presume to say what good auspices for the Roman People are? You presume to be interpreters for these *comitia?*' And he bade them to be gone from the Forum."

311 [1] Strictly speaking, this remark and the next following are irrelevant to the present chapter. I make them simply to warn anew of the habit people have of assuming that a writer says what he does not say (§ § 41, 74-75).

may be eliminated from such a group without impairing its effectiveness. However, in so reasoning we must beware of falling into the fallacy of the man who said he could lose all his hair without becoming bald because he could lose any particular hair without suffering that catastrophe.

312. Device A-III: *Non-logical actions as tricks for deceit.* After establishing, as in the two cases above, that certain actions are not logical, but still resolved to have them such in the feeling that every human act should be born of logic, a writer may go on and say that an institution involving non-logical conduct is an invention of this or that individual or group that is designed to procure some personal advantage, or some advantage to state, society, or humanity at large. So actions intrinsically non-logical are transformed into actions that are logical from the standpoint of the end in view.

To adopt this procedure as regards actions deemed beneficial to society is to depart from the extreme case noted in § 14, where it is maintained that only theories which accord with facts (logico-experimental theories) can be beneficial to society. It is here recognized that there are theories which are not logico-experimental, but which are nevertheless beneficial to society. All the same, the writer cannot make up his mind to admit that such theories derive spontaneously from non-logical impulse. No, all conduct has to be logical. Therefore such theories too are products of logical actions. These actions cannot originate in the sources of the theories, since it has been recognized that the theories have no experimental basis; but they may envisage the same purposes as the theories, which experience shows are beneficial to society. So we get the following solution: "Theories not in accord with the facts may be beneficial to society and are therefore logically *invented* to that end." [1]

313. The notion that non-logical actions have been logically devised to attain certain purposes has been held by many many writers. Even Polybius, a historian of great sagacity, speaks of the religion

312 [1] If one were to say "kept," or "preserved," instead of "invented" in the proposition in question, it would at times correspond to a greater or lesser extent with reality (§ 316).

of the Romans as originating in deliberate artifice.[1] Yet he himself recognized that the Romans succeeded in creating their commonwealth not by reasoned choices but by allowing themselves to be guided by circumstances as they arose.[2]

313 [1] *Historiae,* VI, 56, 8-12 (Paton, Vol. III, p. 395). After noting the great rôle of religion in Roman public life, Polybius adds: "That will seem strange to many. As for me, I believe that religion was established with an eye to the masses. In fact, if the city were made up entirely of educated people, such an institution might never have been called for. But since the masses everywhere are fickle and untrustworthy, full of lawless passions, unreasoning angers, violent impulses, they can be controlled only by mysterious terrors and tragic fears. It seems to me, therefore, that not by chance and not without strong motive did the ancients introduce these beliefs in gods and hells to the multitude." Strabo, *Geographica,* I, 2, 8 (Jones, Vol. I, p. 71): "Since neither women in the mass nor the utterly untutored mob can be influenced by philosophical discourse and preached into piety, reverence, and faith, superstition has to be called in." And then: ". . . myths being like that and turning out to the advantage of society, civilized living, and the continuity of the human race." *Cf.* Plutarch, *Adversus Colotem,* 31 (Goodwin, Vol. V, pp. 379-80). Then Livy, *Ab urbe condita,* I, 19, 4: "He [Numa] thought that fear of the gods should be instilled the very first thing, as a most effective measure for a populace that in those days was still crude and ingenuous (*imperitam*)." Here we are wholly within the realm of logical conduct, the masses being lured into religion by subterfuge. Cicero, *De legibus,* II, 13, 32 (Atticus, alluding to the different views of the two augurs Marcellus and Appius): " 'I have examined their writings and I find that according to the one, the auspices you mention were devised for purposes of state; while according to the other it would seem that you can actually foretell the future by your science.' " Cicero, *De divinatione,* II, 18, 43: "We find it written in our augural commentaries: 'It is sacrilege to hold *comitia* with Jove thundering or lightning.' That may have been devised for purposes of state, for our forefathers wanted to have some pretext for not holding *comitia.*" *Ibid.,* II, 33, 70: "Yet I believe that Romulus, who founded the city in obedience to auspices, must have thought that there was a science of augury for foretelling the future (antiquity erred in many matters) and we see that that belief has remained unshaken whether by experience, by learning, or by time. However, the custom and science of divination, the strict observance of it, and the prerogatives of the augurs and the prestige of their college, have been kept alive in deference to popular feelings, and in view of their great advantage to the state." A little later, II, 35, 75, he adds that he believed "the augural law to have been first established through belief in divination and to have been kept and preserved later on for reasons of state." That seems to have been

313 [2] VI, 11. He is comparing the republic of Lycurgus with the Roman Republic. He believes that Lycurgus was a real person and founded his state with preconceived purposes. Then he goes on: "The Romans achieved the same end in creating their own republic. Not through speculation (*οὐ μὴν διὰ λόγου*), but through their schooling in many struggles and vicissitudes and through their unfailing choice of what was best did they achieve the same end as Lycurgus and create the best of our governments."

314. We may take Montesquieu's view of Roman religion as the type of the interpretation here in question.[1] "Neither fear nor piety established religion among the Romans, but the same necessity that compels all societies to have religions. . . . I note this difference, however, between Roman legislators and the lawgivers of other peoples, that the Romans created religion for the State, the others the State for religion. Romulus, Tatius, and Numa made the gods servants of statesmanship; and the cult and the ceremonies that they instituted were found to be so wise that when the kings were expelled the yoke of religion was the only one which that people dared not throw off in its frenzy for liberty. In establishing religion, Roman law-makers were not at all thinking of reforming morals or proclaiming moral principles. . . . They had at first only a general view, to inspire a people that feared nothing with fear of the gods, and to use that fear to lead it whithersoever they pleased. . . . It was in truth going pretty far to stake the safety of the State on the sacred appetite of a chicken and the disposition of the entrails in a sacrificial animal; but the founders of those ceremonies were well aware of their strong and weak points, and it was not without good reasons that they sinned against reason itself. Had that form of worship been more rational, the educated as well as the plain man would have been deceived by it; and so all the advantage to be expected from it would have been lost."

315. It is curious that Voltaire and Montesquieu followed opposite though equally mistaken lines, and that neither of them thought of a spontaneous development of non-logical conduct.

316. The variety of interpretation here in question sometimes con-

Cicero's own opinion and it does not come far from the truth. Non-logical actions arise spontaneously. They may then be kept in deference to tradition or because of their proved usefulness. Of course any logical origin, by design of Romulus, is pure myth. *Cf.* Aristotle, *Metaphysica,* XI, 8, 13 (Ross, p. 1074b). After discussing the divinity of the stars, he adds: "The rest is a mythical adjunct, designed to influence the multitude and promote obedience to law and the common welfare." See further: Plutarch, *De placitis philosophorum,* I, 7, 2 (Goodwin, Vol. III, p. 119); and Sextus Empiricus, *Contradictiones,* IX, *Adversus physicos,* II, *De diis,* 14-16 (551) (*Opera,* Vol. II, pp. 539-40).

314 [1] *Dissertation sur la politique des Romains dans la religion,* p. 303.

tains an element of truth, not as regards the origin of non-logical actions, but as regards the purposes to which they may be turned once they have become customary. Then it is natural enough that the shrewd should use them for their own ends just as they use any other force in society. The error lies in assuming that such forces have been invented by design (§ 312). An example from our own time may bring out the point more clearly. There are plenty of rogues, surely, who make their profit out of spiritualism; but it would be absurd to imagine that spiritualism originated as a mere scheme of rogues.

317. Van Dale, in his treatise *De Oraculis,* saw nothing but artifice in the pagan oracles. That notion belongs with this group of interpretations. Eusebius wavers between it and the view that oracles were the work of devils.[1] Such mixtures of interpretations are common. We shall come back to them.

318. Likewise with this variety are to be classed interpretations that regard non-logical actions as consequences of an external or exoteric doctrine serving to conceal an internal or esoteric doctrine. That would make actions which are non-logical in appearance logical in reality. Consider a passage in Galileo's *Dialogue of the Greater Systems* (Salviati speaking):[1] "That the Pythagoreans held the science of numbers in very high esteem . . . I am well aware, nor would I be loath to concur in that judgment. But that the mysteries in view of which Pythagoras and his sect held the science of numbers in such great veneration are the absurdities commonly current in books and conversation, I can in no way agree. On the contrary, they did not care to have their wonders exposed to the ridicule and disparagement of the common herd. So they damned as sacrilegious any publication of the more recondite properties of the numbers and incommensurable and irrational quantities with which they dealt, and they preached that anyone disclosing such things would suffer torment in the world to come. I think that some of

317 [1] *Evangelica praeparatio,* V (*Opera,* Vol. III, pp. 307-402).

318 [1] *Dialogo dei due massimi sistemi del mondo, Giornata prima* (*Opera,* Vol. VII, p. 35).

them, to throw a sop to the vulgar and be free of prying importunity, represented their numeral mysteries as the same childish idiocies that later on spread generally abroad. It was a shrewd and cunning device on their part, like the trick of that sagacious young man who escaped the prying of his mother (or his curious wife—I forget which), who was pressing him to confide the secrets of the Senate, by making up a story wherewith she and other prattling females proceeded to make fools of themselves, to the great amusement of the Sentaors."

That the Pythagoreans sometimes misrepresented their own doctrines seems certain; but it is not at all apparent that that was the case with their ideas on perfect numbers. On that point Galileo is mistaken (§§ 960 f.).

319. Device B-I: *The principles are taken as completely and directly real.*[1] This variety is exemplified by non-logical actions of a religious character on the part of unquestioning believers. Such actions differ little if at all from logical actions. If a person is convinced that to be sure of a good voyage he must sacrifice to Poseidon and sail in a ship that does not leak, he will perform the sacrifice and caulk his seams in exactly the same spirit.

320. Curiously enough, such doctrines come closer than any others to a scientific status. They differ from the scientific, in fact, only by an appendage that asserts the reality of an imaginary principle; whereas many other doctrines, in addition to possessing the same appendage, further differ from scientific doctrines by inferences that are either fantastic or devoid of all exactness.

321. Device B-Iα: *Precept plus sanction.* This variety is obtained by appending some adjunct or other to the simple sanctionless precept—to the taboo (*cf.* § 154).[1]

319 [1] This extreme case recognizes non-logical actions for what they are and therefore ought not, strictly speaking, to be classified with procedures for giving non-logical actions the semblance of logic. However, we must consider it as the point of departure for many such procedures, and so glance at it here.

321 [1] The sanctionless precept is not of this variety because it does not evade but recognizes the fact that an action is non-logical—indeed it is in the sanctionless precept that non-logical actions can be most readily identified.

322. Reinach writes:[1] "A taboo is an interdiction; an object that is taboo, or tabooed, is a forbidden object. The interdiction may forbid corporal contact or visual contact; it may also exempt the object from the peculiar kind of violation involved in pronouncing its name. . . . Similar interdictions are observable in Greece and Rome, and among many other peoples, where generally it is explained that knowledge of a name enables a person to 'evoke' with evil intent the 'power' that the name designates. That explanation may have been valid at certain periods; but it does not represent the primitive state of mind. Originally it was the sanctity of the name itself that was dreaded, on the same grounds as contact with a tabooed object."

Reinach is right in regarding as an appendage the notion that knowledge of the name of an object gives a person power over it; but the notion of sanctity is likewise an appendage. Indeed, probably few of the individuals observing a taboo would know what was meant by an abstraction such as "sanctity." For them the taboo is just a non-logical action, just an *aversion* to touching, looking at, naming, the thing tabooed. Later on an effort is made to explain or justify the aversion; and then the mysterious power of which Reinach speaks (or perhaps his own notion of sanctity) is invented.

Reinach continues: "The notion of the taboo is narrower still than the notion of interdiction. The characteristic difference is that the taboo never gives a reason." That is excellent! The non-logical action has just that trait. But for that very reason Reinach should not, in a particular case, provide the taboo with a reason in some consideration of sanctity. He goes on: "The prohibition is merely stated, taking the cause for granted—it is, in fact, nothing but the taboo itself, that is to say, the assertion of a mortal peril." But in saying that he is withdrawing his concession and trying to edge back into the domain of logic. No "cause" is taken for granted! The taboo lies in a pure and absolute repugnance to doing a certain thing. To get something similar from our own world: There is the sentimental person who could never be induced to cut off a chicken's head.

322 [1] *Cultes, mythes et religions,* Vol. I, pp. 1-2.

There is no "cause" for the aversion; it is just an aversion, and it is strong enough to keep the person from cutting off a chicken's head! It is not apparent either why Reinach would have it that the penalty for violating a taboo is always a mortal peril. He himself gives examples to the contrary. Going on, he returns to the domain of non-logical actions, well observing that "the taboos that have come down into contemporary cultures are often stated with supporting reasons. But such reasons have been excogitated in times relatively recent [One could not say better.] and bear the stamp of modern ideas. For example, people will say, 'Speak softly in a chamber of death [A taboo that gives no evidence of having a "mortal peril" for a sanction.] out of respect for the dead.' The primitive taboo lay in avoiding not only contact with a corpse, but its very proximity. [Still no evidence of any mortal peril.] Nevertheless even today, in educating children taboos are imparted without stated reasons, or else with some mere specification of the general character of the interdiction: 'Do not take off your coat in company, for that is not nice.' In his *Works and Days,* v. 727, Hesiod interdicts passing water with one's face towards the sun, but he gives no reasons for the prohibition. [A pure non-logical action.] Most taboos relating to decorum have come down across the centuries without justifications" [and with no threats of "mortal peril"].[2]

323. With taboos may profitably be classed other things of the kind where logical interpretation is reduced to a minimum. William Marsden says of the Mohammedans of Sumatra:[1] "Many who profess to follow it [Mohammedanism] give themselves not the least concern about its injunctions, or even know what they require. A Malay at Marina upbraided a countryman, with the total ignorance of religion, his nation laboured under, 'You pay a veneration to the tombs of your ancestors: what foundation have you for supposing that your dead ancestors can lend you assistance?' 'It may be true,' answered the other; 'but what foundation have *you,* for expecting

322 [2] We have here been considering the sanction appended to taboos as a device for logicalizing non-logical actions. Farther along we shall examine them as devices for inducing observance of taboos.

323 [1] *History of Sumatra,* p. 250.

assistance from Allah and Mahomet?' 'Are you not aware,' replied the Malay, 'that it is written in a Book? Have you not heard of the Koraan?' The native of the Passumah, with conscious inferiority, submitted to the force of this argument." [2] That is a seed which will sprout and yield an abundant harvest of logical interpretations, some of which we shall find in the devices hereafter following.

324. Something like the taboo is the precept (§§ 154, 1480 f.). It may be given without sanction, "Do so and so," and in that form it is a plain non-logical action. In the injunction, "You *ought* to do so and so," there is a slight, sometimes a very slight, trace of explanation. It lurks in the term "ought," which suggests the mysterious entity Duty. That is often supplemented by a sanction real or imaginary, and then we get actions that are either actually logical or else are merely made to appear so. Only a certain number of precepts, therefore, can be properly grouped with the things we are classifying here.

325. In general, precepts may be distinguished as follows:

a. Pure precept, without stated reasons, and without proof. The proposition is not elliptical. No proof is given, either because no proof exists or because none is asked for. That, therefore, is the pure non-logical action. But human beings have such a passion for logical explanations that they usually stick one or two on, no matter how silly. "Do that!" is a precept. If it be asked, "Why should I do that?" the answer is, let us say, "Because . . . !" or, "Because it is customary." The logical appendage is of little value, except where violation of custom implies some penalty—but in that case the penalty, not the custom, carries the logical force.

326. *b. The demonstration is elliptical.* The proof, valid or not, is available. It has not been mentioned, but it may be. The proposition is a precept only in appearance. The terms "ought," "must," and the like may be suppressed, and the precept reduced to an experimental or pseudo-experimental theorem, the consequence deriving from the act without any interposition from without. This type of precept runs, "To get *A,* you must do *B,*"; or, negatively, "To

323 [2] For other examples of the kind see §§ 1430 f.

avoid *A*, you must refrain from doing *B*." The first proposition can be stated thus: "When *B* is done, *A* results." Similarly for the second.

327. If both *A* and *B* are real things and if the nexus between them is actually logico-experimental, we get scientific propositions. They have nothing to do with the things we are trying to classify here. If the nexus is not logico-experimental, they are pseudo-scientific propositions, and a certain number of them are used to logicalize non-logical actions. For instance, if *A* stands for a safe voyage and *B* for sacrifices to Poseidon, the nexus is imaginary, and the non-logical action *B* is justified by the nexus that connects it with *A*. But if *A* stands for a safe voyage and *B* for defective ship-building, we get just an erroneous scientific proposition. A mistake in engineering is not a non-logical action.

328. If *A* and *B* are both imaginary, we are wholly outside the experimental field, and we need not consider such propositions. If *A* is imaginary and *B* real, we get non-logical actions, *B*, justified by the pretext, *A*.

329. *c. The proposition is really a precept, but a real sanction enforced by an extraneous and real cause is appended to it.* That gives a logical action: the thing is done to escape the sanction.

330. *d. The proposition is a precept, but the sanction is imaginary, or enforcible only by an imaginary power.* We get a non-logical action justified by the sanction.[1]

331. The terms of ordinary speech rarely have sharply defined meanings. The term "sanction" may be used more or less loosely. Here we have taken it in the strict sense. Broadly speaking, one might say that a sanction is always present. In the case of a scientific proposition the sanction might be the pleasure of reasoning soundly or the pain of reasoning amiss. But to go into such niceties would be just a waste of time.

332. Device B-Iβ: *Introduction of a divinity or of personified abstractions.* A very simple elaboration of the taboo, or pure precept, is involved in the introduction of a personal god, or of personifications such as Nature, by will of which non-logical actions are re-

330 [1] For fuller explanation see Chapter IX (§§ 1480 f.).

quired of human beings and are therefore logicalized. How the requirement arises is often left dark. "A god (or Nature) wills that so and so be done." "And if it is not done?" The question remains unanswered. But very often there is an answer; it is asserted that the god (or Nature) will punish violators of the precept. In such a case we get a sanctioned precept of the species *d* above.

333. When the Greeks said that "strangers and beggars come from Zeus," [1] they were merely voicing their inclination to be hospitable to visitors, and Zeus was dragged in to give a logical colouring to the custom, by implying that the hospitality was offered either in reverence for Zeus, or to avoid the punishment that Zeus held in store for violators of the precept.

334. Device B-Iγ: *Divinities plus legend and logical elaboration.* Rare the case where such embellishments are not supplemented by multiple legends and logical elaborations; and through these new adjuncts we get mythologies and theologies that carry us farther and farther away from the concept of non-logical conduct. It may be worth while to caution that theologies at all complicated belong to restricted classes of people only. With them we depart from the field of popular interpretations and enter an intellectual or scholarly domain. To the variety in question here belong the interpretations of the Fathers of the Christian Church, such as the doctrine that the pagan gods were devils.

335. Device B-Iδ: *Metaphysical entities taken as real.* Here reality is ascribed not to a personal god or to a personification, but to a metaphysical abstraction. "The true," "the beautiful," "the good," "the honest," "virtue," "morality," "natural law," "humanity," "solidarity," "progress," or their opposite abstractions, enjoin or forbid certain actions, and the actions become logical consequences of the abstractions.[1]

336. In interpretations of the B-Iβ variety, the personal god can inflict a punishment because he chooses to. In the case of "Nature" the punishment is an automatic consequence of the conduct. Those

333 [1] *Odyssey*, VI, vv. 207-08: *πρὸς γὰρ Διός εἰσιν ἅπαντες ξεῖνοί τε πτωχοί τε.*

335 [1] For the detailed argument see §§ 1510 f.

interpretations, therefore, are respectably logical. In the case of metaphysical abstractions, however, the logic is flimsy indeed. You tell a person, "You must do that because it is good," and he replies, "But I do not choose to do what is good." You are checkmated, for milord Good, estimable worthy that he may be, does not wield the thunderbolts that Zeus wields. So our latter-day Christians keep the God of the Old Testament but strip Him of all His weapons. There could be no trifling with the God of the Hebrews, who fiercely avenged transgressions of His laws, or with the God of St. Paul, who was no whit less quick to wrath. But, armed with the abstractions of their pseudo-science, with what can the neo-Christians threaten the unbeliever? Or what can they do for the believer to make his belief worth while? The answer is, "Nothing." The conduct they recommend is simply non-logical conduct. That does not mean that it may not be as beneficial to individual or society as any other, or even more so. It may or may not be. But in any event it is certain that it is not the logical inference from a principle, like the inference from the existence of a divine power and will that unbelievers will be punished and believers rewarded.[1]

336 [1] As for the God of the Hebrews, see Piepenbring, *Théologie de l'Ancien Testament,* pp. 98-99: "The holiness of God is intimately bound up with His jealousy, His wrath, His vengeance. . . . In the 'Old Canticle' (*Ex.* 15:7) Moses cries out to the Lord: '. . . In the greatness of thine excellency thou hast overthrown them that rose up against thee: thou sentest forth thy wrath, which consumed them as stubble.' [Can any neo-Christian abstraction say as much?] The wrath of God breaks out in the form of dire punishment every time His will is crossed, disregarded, transgressed." These milk-and-water Christians are inclined to think that all that changed with the coming of Christ, but such is not the case. The early Church Fathers discourse without mincing words on the punishments that will be visited on unbelievers. As for the God of St. Paul, one of the many passages will suffice: I Cor. 10:8: "Neither let us commit fornication, as some of them [the Israelites] committed, and fell in one day three and twenty thousand [Num. 25:1-9]." Can the abstraction concocted by the pseudo-science of the neo-Christians pretend to do as much? No! Well, in that case the precept will be obeyed by those who are already good Christians, and no one who is not will pay any attention. But that is the essential characteristic of the principles (§ 306 [1]) of non-logical actions. The Apostle continues: "Neither let us tempt Christ, as some of them also tempted, and were destroyed of serpents [Num. 21:4-9]. Neither murmur ye, as some of them also murmured, and were destroyed of the destroyer [Num. 11:16]." And later on, 22, he asks: "Do we provoke the Lord to jealousy? are we stronger than He?" Every

337. Device B-Iε: *What is real is the accord between the principles and certain sentiments.* This manner of envisaging facts is implicit rather than explicit. So for certain neo-Christians the reality of Jesus seems to come down to an accord between their conception of Him and certain sentiments they hold. They abandon the objective field, deny the divine nature of Christ, and seem not to care very much about His historical reality. They are satisfied with asserting that Christ is the most perfect type of humanity, which means that their notions of Christ happen to coincide with what, according to their sentiments, is the most perfect type of human being. Once on that road they finish by throwing all theology, all rites, overboard and end with the assertion that "religion is a manner of living."[1]

338. Along that line they might seem to be approximating the concept of non-logical conduct; but they are still radically at variance with it, since they are thinking not of what is, but of what ought to be, and rob the "ought" of the subordinate character

sensible man will answer no if the being in question is an omnipotent God; but many sensible men will answer yes if it is a question of an abstraction that some few individuals have distilled from their own sentiments.

337 [1] Auguste Sabatier, *Les religions d'autorité et la religion de l'esprit,* pp. 440-41 (English translation, pp. 281-82): "The letter, the alphabetic sign, characterizes the Mosaic religion in accordance with the form of its appearance in history, its manner of being and action. . . . The letter kills. Spirit, instead, characterizes the religion of the Gospel in accord with the very nature of the inner moral relationship that it sets up between God and man, in accord with the manner of being of the Gospel and the principle of its action. . . . In view of that you must surely understand what the religion of the spirit is. It is the religious relationship realized in pure spirituality. It is God and man conceived both as spirit and as reciprocally permeating each other to the point of attaining complete communion. Physical bodies are by definition impenetrable to each other. . . . Quite otherwise the relationship between spirits. Their inward tendency is to live each other's lives mutually and to combine in a higher common life. What the law of gravitation is to the physical world as regards the maintenance of its harmony, so love is and so love does in the spiritual and moral world. [The conception this gentleman has of the law of gravitation would make a story.] . . . Ultimate force in the moral development of the human being, the spirit of God no longer constrains him from without but determines, animates, him from within, and is the source of his life. . . . The fulfilment of natural duties, the regular exercise of all human faculties, the progress of enlightenment as well as of justice—that is the perfection of the Christian life. Becoming an inner reality, a fact of conscience, Christianity is now nothing more than conscience raised to its highest power."

(§ 326) it might well have in the case of some few individuals, and give it an absolute status that altogether transcends the experimental field. Their theories, in a word, have no other purpose than to decorate non-logical impulse with a logical rouge.

339. B-II: *The reality is no longer direct;* that is to say, it is no longer held that there is a god, a personification, an abstraction, or the like, from which non-logical actions may be logically inferred. *It is assumed that such actions have arisen spontaneously, by reasonings good or bad based on facts well or badly authenticated.* The difference between this variety and the B-I group is a radical one; for whereas the B-I devices ascribed reality to entities foreign to the experimental field, the entities posited in this variety arise within the experimental field, and the only questions are whether they have actually been observed and whether the assumed consequences are real consequences. "Beggars come from Zeus" is an interpretation of the B-I variety. I create the entity Zeus, which I assume to be real, and from its existence I draw certain inferences. "Whoever is hospitable to beggars will be happy" is an interpretation of the B-II variety. I pretend that I have observed that people who have been hospitable to beggars have been happy, and I draw the inference that if they continue to be hospitable to beggars they will continue to be happy. I have not created any entity; I am using real facts, combining them as I see fit.

340. Device B-IIα: *Observation imperfect, inferences logical.* This method of reasoning aims to throw back upon the premises a logico-experimental insufficiency that cannot be disputed. We have certain assertions that are manifestly in contradiction with logico-experimental knowledge. We may assume that the contradiction arises because the reasoning which produces the conclusions is not logical, and we are thereby carried into the domain of non-logical conduct. Or else we may hold that the reasoning is logical, but that it starts with premises inconsistent with experimental knowledge and so leads to conclusions where the contradiction is likewise apparent. In that way we are able to remain within the field of logical conduct. Typical of this variety are the theories of Herbert Spencer (§§ 285,

289-95). The rôle ascribed to non-logical conduct is reduced to a minimum and may even be eliminated. Underlying certain phenomena are certain observations of fact. It is assumed that from such alleged observations human beings have drawn inferences, reasoning very much as any thinker would reason. So we get the doctrines of those human beings and the reasons for their conduct.

341. Concepts of this kind figure to a greater or lesser extent in almost all theories dealing with the "origins" of social phenomena such as "religion," "morality," "law," and the like. Writers are driven to admit the existence of non-logical actions but are careful to push them back into the past as far as they can.

342. There may be some truth in such theories in so far as they call attention to certain simple types of complex phenomena. They go astray in trying to derive the complex phenomenon from the simple type, and still farther astray when it is assumed that that process is logical.

343. Ignoring for the moment the complex character of social phenomena, let us assume that certain phenomena *P,* observable at the present day, have an actual origin *A* (Figure 9). If the development took place along a continuous line *ABCDP,* it would be possible, in a sense, to take one of the intermediate phenomena *B, C* . . . as the origin, or cause, of *P.* If, for instance, going as far back as our historical knowledge permits, we found a thing *B* of the same nature as *P,* though much simpler, we should not go too far wrong in regarding it as the origin, or cause, of *P.*

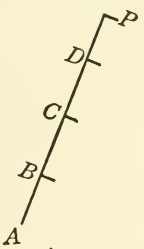

Figure 9

344. Unfortunately the assumption of development along a continuous line does not at all conform with the facts as regards social phenomena, or even as regards not a few biological phenomena. The development, rather, seems to take place along a line with many branches (Figure 10), even still ignoring the complex character of social phenomena, which hardly permits us to dissociate the social phenomenon *P* from other social phenomena (§ 513). Facts *B, C, D* . . . (Figure 10) are no longer located along a straight continuous

line, but stand at the extremities or intersections of branch lines; and we cannot, even as a hypothesis very remotely approximative to the facts, assume that *C,* for example, or *E,* or any other similar fact observable in the past, is the origin, the cause, of *P,* observable in the present.

345. To take a concrete example: Reinach sees in taboos the origin of religion. In so doing, he seems to take the position pictured in Figure 9, *B* standing for the taboos, *P* for present-day religions. But even assuming that religion is unconnected with other social phe-

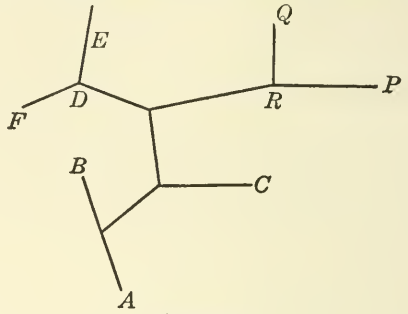

Figure 10

nomena, the situation is actually as represented in Figure 10, and the taboos *B* would be the extremity of a by-path. Taboos cannot be taken as the origin of religion. They may be regarded as simple types of phenomena, of which the religions *C, Q, P* are complex types. That is all the truth there is in the theories of Reinach, a fairly important truth, for that matter, since it emphasizes the part played by non-logical actions in religious phenomena.

346. Studies in origins in social matters often proceed very much after the manner of old-fashioned etymology.[1] The intermediate

346 [1] Brachet, *Grammaire historique de la langue française,* pp. 293-94 (Kitchin, pp. 195-96): "Before attaining the degree of exactness that it possesses today, etymology, like all the sciences and perhaps more notably than any other, traversed a long period of infancy, of gropings, of uncertain efforts, during which arbitrary associations, superficial analogies, reckless combinations, made up virtually its whole patrimony." Here Brachet quotes from Réville, *Les ancêtres des européens:* " 'Abidingly famous the day-dreams of Plato in the *Cratylus,* the absurd etymologies of Varro [*Etymologiae,* Dordrecht, Part III, pp. 165-176] and Quintilian among the Romans, the philological fancies of Ménage in France in the seventeenth century. People saw nothing strange about connecting *jeûne,* "fast," with *jeune,* "young." Is not youth the morning of life, and is one not fasting when one gets up? Most often two words

steps *C, D* . . . (Figure 9) are assumed or guessed at, in getting from *B* to *P;* and the temptation is to ask how things ought to have gone rather than how they actually went. Investigations, in such a case, lie outside the domain of experimental reality. Yet, historically speaking, they have not been altogether wasted: for they have served to open a breach in the ethical and *a priori* theories that have been explaining *P* by imaginary principles. That task accomplished, it is now time for them to give way to purely experimental theories.

347. Device B-IIβ: *Myths have a historical basis or else are imitations of other myths.* Origins and evolution being discarded, it is assumed that every myth is the deformed reflection of something real. Of this variety were the euhemeristic theories, so called, as to the origin of the pagan gods (§§ 682-708). Nothing is more certain than that there have been cases where human beings have been deified. The euhemeristic error lies, first of all, in generalizing a particular fact, and then in confusing the point *B* in Figure 9 with the point *B* in Figure 10, in assuming, that is, that because one fact precedes another fact in time, it is the origin of it. The theories of Palaephatus (§ 661) also belong to this variety.

348. In general, interpretations of this kind are very easy to work out. One arbitrarily changes in a myth anything that needs to be changed to produce a picture that is real. Take, for example, Astolfo's hippogriff in the *Orlando furioso* of Ariosto. The wingèd horse can be made a real horse by interpreting the story in the sense that the hippogriff was some very swift horse that was therefore spoken of as having wings. Dante sees Francesca and her brother-in-law lashed by "the hellish hurricane." The hurricane can be interpreted as a symbol of the carnal passion that smites the two lovers

of entirely different forms were derived from each other, the gulf between them being bridged by fictional intermediaries. That was the way Ménage got the French *rat* from the Latin *mus,* "mouse": "People must have said first *mus,* then *muratus,* then *ratus,* finally *rat.*" It was courageously assumed that an object could get its name from a quality opposite to its own, affirmation provoking negation, so that Latin *lucus,* "grove," came from *non lucere,* "not to be bright," because on entering a grove one finds it shady.' " Brachet continues: "From such a mass of erudite nonsense how could one of the leading sciences eventually arise in our day? By the discovery and application of the comparative method, which is the method of the natural sciences"—and the method we are trying to follow in these volumes.

like a hurricane. In such a procedure not the slightest difficulty will ever be encountered (§ 661).

349. With this variety we may class theories that explain the non-logical actions observable in a given society as imitations of non-logical actions prevalent in other societies. To tell the truth, not all non-logical actions are eliminated by this device; they are merely reduced in number, several of them being taken as duplicates of one.[1]

350. Device B-IIγ: *Myths taken as historical fact plus a fictional appendage.* In this variety we come a little closer to reality. In every myth the legend is assumed to have a nucleus of historical fact covered over by an alluvium of fiction. One removes the accretion, and finds the nucleus of fact underneath. Many books have been written from that point of view. Not so long since all the legends that have come down from Graeco-Roman antiquity were treated in that way.[1]

Our variety B-IIβ, above, is often the present variety, B-IIγ, carried to the extreme. There may be something historical in a myth, a something more or less extensive. As it is reduced to a minimum and finally disappears, we get the B-IIβ variety.

351. Device B-III: *The principles underlying non-logical actions are allegories.* The actions, it is held, are in reality logical. They seem to be non-logical only because the allegories are taken literally. A further assumption locates the source of such errors in language by an allegorical interpretation. Max Müller writes:[1] "There are many myths in Hesiod, of late origin, where we have only to replace a full verb by an auxiliary, in order to change mythical into logical language. Hesiod [*Theogonia,* vv. 211-12 (White, pp. 94-95)], calls Nyx (Night) the mother of Moros (Fate), and the dark Kêr (Destruction), of Thanatos (Death), Hypnos (Sleep) and the tribe of the Oneiroi (Dreams). . . . Now let us use our modern expressions, such as: 'the stars are seen as night approaches,' 'we sleep,' 'we dream,' 'we die,' 'we run danger during the night' . . . and we

349 [1] For examples see §§ 733 f.

350 [1] For several such interpretations see Chapter V.

351 [1] *Chips from a German Workshop,* Vol. II, p. 64. [The French translation which Pareto used for this passage has a number of errors.—A. L.]

have translated the language of Hesiod . . . into modern forms of thought and speech."

352. On that basis all myths would be charades. It seems incredible that a theory so manifestly absurd could have gained such wide acceptance. Müller's disciples did even worse than their master, and the solar myth became a convenient and universal explanation for every conceivable legend.

353. Class C. In this class, really, non-logical actions are not interpreted in such a way as to make them logical. They are eliminated, so that only logical actions are left. That serves just as well to reduce all conduct to logic. Such opinions are widely current in our time, and are an article of faith with a great many people who worship a powerful divinity known to them as "Science." Not a few humanitarians are of the same tribe.

354. Other people reason more soundly; and after noting a thing that is true enough—that science has contributed greatly to the advance of civilization—they go farther still and try to show that nothing that is not science can be useful. As the type of such theories one might quote the celebrated argument of Buckle:[1] "It is evident, that if we look at mankind in the aggregate, their moral and intellectual conduct is regulated by the moral and intellectual notions prevalent in their own time. . . . Now, it requires but a superficial acquaintance with history to be aware that this standard is constantly changing. . . . This extreme mutability in the ordinary standard of human actions shows that the conditions on which the standard depends must themselves be very mutable; and these conditions, whatever they may be, are evidently the originators of the moral and intellectual conduct of the great average of mankind.

"Here, then, we have a basis on which we can safely proceed. We know that the main cause of human actions is extremely variable; we have only, therefore, to apply this test to any set of circumstances which are supposed to be the cause, and if we find that such circumstances are not very variable, we must infer that they are not the cause we are attempting to discover.

354 [1] *History of Civilization in England,* Vol. I, pp. 179-82.

"Applying this test to moral motives, or to the dictates of what is called moral instinct, we shall at once see how extremely small is the influence those motives have exercised over the progress of civilization. For there is, unquestionably, nothing to be found in the world which has undergone so little change as those great dogmas of which moral systems are composed. . . .

"But, if we contrast this stationary aspect of moral truths with the progressive aspect of intellectual truths, the difference is indeed startling.[2] All the great moral systems which have exercised much influence have been fundamentally the same; all the great intellectual systems have been fundamentally different. . . . Since civilization is the product of moral and intellectual agencies, and since that product is constantly changing, it evidently cannot be regulated by the stationary agent; because when surrounding circumstances are unchanged, a stationary agent can only produce a stationary effect. The only other agent is the intellectual one; and that this is the real mover may be proved."

355. Buckle's reasoning is sound provided one add that all human conduct is logical and derives from moral and intellectual principles. But that proposition is false. In the first place, many very important actions are non-logical. Secondly, the things designated by the terms "moral principle" and "intellectual principle" are wanting in exactness: they cannot be taken as premises in a rigorous argument. Thirdly, Buckle's reasoning has the general defect of arguments by elimination in sociological matters—the enumeration is never complete.[1] He omits things of great importance. Theoretical principles of morality may be the same, and moral practices very different—for instance, the peoples who all preach the Christian ethics by no means all behave in the same way in practice.[2]

356. Buckle's argument reduces the practical rôle of moral the-

354 [2] Buckle quotes James Mackintosh, Condorcet, and Kant, in support.

355 [1] Pareto, *Manuale,* Chap. I, § 18.

355 [2] [Fielding, *Tom Jones,* IX, iii, 2: ". . . purposes . . . which though tolerated in some Christian countries, connived at in others and practised in all . . . are expressly forbidden . . . by that religion which is universally believed in in those countries."—A. L.]

ories to very small proportions, and in that it accords with the facts. But what it takes away from morals ought not be handed over to an "intellectual principle" (whatever that may be), but to the patrimony of non-logical actions, economic progress, improvements in communications, and the like. It may well be that something has to be assigned to scientific progress all the same, and therefore to the said "intellectual principle"; but there is a big difference between such indirect, non-logical influence, and a direct action by way of logical inference from a given principle.[1]

357. We need carry our study of this special classification no farther. It has already shown that existing doctrines may be broken up into two different elements: certain sentiments, and inferences from those sentiments. It opens, in other words, a path that it may or may not be profitable to follow to the end. We shall see as we go on.

358. Many statesmen, many historians, recognize non-logical actions without giving them that name and without going to the trouble of finding their theory. Just a few examples taken here and there from the works of Bayle,[1] implicit in which are several theories of non-logical conduct—and it is indeed surprising to find in a writer who lived two centuries and more ago certain truths that are unappreciated even today. Bayle declares and repeats that "opinions are not the rule of conduct"; and that "man does not regulate his conduct by his opinions. . . . The Turks hold certain tenets of that doctrine of the Stoics [fatalism], and they carry the business of predestination to extreme lengths. Nevertheless they may be seen

356 [1] Here and there in his work Buckle himself ends by making at least implicit allusion to non-logical actions. Trying to account for the differences between the Puritan Revolution and the French Fronde, he suggests, Vol. II, p. 150, "that in England a war for liberty was accompanied by a war of classes, while in France there was no war of classes at all"; and further, Vol. II, p. 162, that "the object of the [French] nobles was merely to find new sources of excitement, and minister to that personal vanity for which, as a body, they have always been notorious." Now whatever the route that is tried in order to get from such facts to logical inferences from an "intellectual principle," it is certain that the facts depend on natural inclinations, which cannot be regarded as resulting from any differences between the scientific and intellectual attainments of the English and the French at that period. No such differences existed.

358 [1] *Pensées diverses,* § 138.

to flee danger as other men do, and they are far from charging in battle with the courage of the French, who do not believe in predestination." The existence and importance of non-logical conduct could not be recognized in plainer terms. Find a general form for this observation of particular fact, and we get the starting-point for a theory of non-logical conduct.

359. Bayle further observes, *Ibid.,* § 139: "It cannot be said that people who fail to live according to the precepts of their religion do not believe in a God"; and he presses the point, *Ibid.,* § 136: "Man does not act according to his principles. He may be as rational a creature as you like, but it is none the less true that he almost never acts according to his principles. [In other words his conduct is non-logical.] He has indeed the strength, in speculative matters, not to draw wrong conclusions; for in such reflections he sins rather in his readiness to accept false principles than in drawing mistaken conclusions from them. But it is quite another matter when good morals are in question. [A particular remark that is true in general.] In morals he almost never hits on false principles. Almost always the ideas of natural equity are present in his conscience. Nevertheless he is always deciding in favour of his uncontrolled desires. [The usual vague phraseology, but the substance accords with fact.] . . . The true principle of human conduct . . . is naught but temperament, the natural inclination to pleasure, the taste for certain things, the desire to please, the habits acquired in intercourse with friends, or some other disposition arising from the depths of human nature, whatever the country in which one is born [This contradicts the preceding and is to be deleted.] and whatever the knowledge that has been instilled in the mind."

That comes very close to the facts. If we tried to give greater precision to Bayle's language, and establish a stricter classification, would we not have a theory of non-logical actions—their great importance so becoming more and more apparent?

360. Bayle quotes with approval a passage from Nicolle: " 'When the time comes for human beings to pass from speculation to action, they do not follow consequences; and strange it is to see how the

human mind can stop at certain speculative truths without going on to their logical consequences in practice, which seem so bound up with those truths as to be in no way separable from them.' " [1]

361. Bayle soundly enough observes, *Ibid.*, § 51, that "the pagan religion was satisfied with an external rite" (§ 174); but he went wrong in believing, *Ibid.*, § 122, that it "had no influence on morals." He failed to perceive that ritual practices intensified sentiments (non-logical actions) and that such sentiments were in turn sources of morality.

362. He goes to some pains to prove that atheism is preferable to idolatry. To understand him aright we have to take account of the times in which he was living and the perils to which he was exposed. Just as in our time there are persons who give perpetual chase to "immoral" books, so in Bayle's time there were those who kept open season on books against Christianity. Unable to whip the horse, Bayle whips the saddle, and belabours idolatry with criticisms that apply just as well to all religions. At bottom his argument tends to show that since the majority of human actions are non-logical, forms of belief are of no great importance.

363. Montesquieu did not get that point, and his reply to what he calls "Bayle's paradox" is of little or no value. He is solving the problem by restating it when he says: "A prince who loves religion and fears it is a lion surrendering to the hand that caresses it, or to the voice that quiets it; the prince who fears religion and hates it is like the wild beast biting at the chains that keep it from attacking passers-by; the prince who has no religion at all is the terrible beast that never feels his freedom till he is rending and devouring." [1] Underlying all this declamation, which is mere fustian, is the proposition, evidently, that human beings act logically in accord with their beliefs. But that is the very thing Bayle denies; and proofs, not

360 [1] *Continuation des Pensées diverses,* § 139.

363 [1] *L'esprit des lois,* XXIV, 2: *Paradoxe de Bayle.* Montesquieu was right in saying that "in order to attenuate the horrors of atheism" Bayle was "too severe on idolatry"; but he should have recognized Bayle's artifice in doing that. It was a trick he used himself on other occasions.

mere asseverations of the opposite, were required to refute him (§ 368).

364. Taking his stand on logical conduct, Montesquieu says that "even if it were useless for subjects to have religions it would not be useless for princes to have them." Starting with the premise of non-logical conduct, we are carried to a conclusion directly opposite: the person in command needs rational combinations particularly, and the person who obeys needs more particularly an unreasoned rule independent of his scant knowledge.

365. The weakness in Bayle's argument is not the one that Montesquieu criticizes. It lies in an altogether different direction. After noting and amply demonstrating that human beings do not act according to logical inferences from principles, from opinions, and that a great many human actions of great importance are non-logical, Bayle should have centred his attention upon such actions. Then he would have seen that they were of many kinds; and he would have had to decide whether they were independent or influenced one another mutually. He would readily have seen that they do exert reciprocal influences, and therefore that the social importance of religion lies not at all in the logical value of its dogmas, its principles, its theology, but rather in the non-logical actions that it promotes. He was actually on the road to that conclusion when he asserted that "a religion has to be judged by the cult which it practises"; and when he stated that the pagan religion stopped at a purely external ritualism, he could hardly have been closer to experimental truth. One step more and he would have had the truth entire. But unfortunately he turns aside. Instead of judging religions, which are non-logical actions, by their social influence, he loses his way in questions as to their moral value, or better, as to their relation to what he is pleased to call "morality"; and in that we have a counter-attack by logic, which is again invading territory from which it had been expelled.

From that point of view one might repeat of Bayle what Sumner Maine says of him in commenting on the writings of Rousseau:[1]

365 [1] *Ancient Law*, p. 84.

"It [Rousseau's] was the first attempt to re-erect the edifice of human belief after the purely iconoclastic efforts commenced by Bayle, and in part by our own Locke, and consummated by Voltaire." But that goes to show how, in view of the indefiniteness of ordinary language, utterly different concepts may be expressed in the same words. Maine is thinking not of science or theory but of practice, as is clearly apparent from what immediately follows: "and [Rousseau's system has], besides, the superiority which every constructive effort will always enjoy over one that is merely destructive." It is not the function of theory to create beliefs, but to explain existing ones and discover their uniformities. Bayle took a great step forward in that direction in exposing the vacuity of certain interpretations and opening the way for the discovery of others more consistent with the facts. From the standpoint of theory, his work, far from being inferior to Rousseau's, is as superior to Rousseau's as the astronomy of Kepler is superior to the astronomy of Cosmas Indicopleustes. He may be blamed only for stopping too soon on a road which he had so splendidly opened.

366. Why he did so is hard to guess. The case is not rare. It would seem as though in science it is often necessary to destroy before building can begin. It may also be that Bayle was deterred from a complete expression of his ideas by the moral and religious persecutions common in his time, that the atmosphere of persecution affected the thinker not only materially but intellectually also, and constrained him to disguise his thought under certain forms. Just so in our own time persecutions and annoyances of all sorts emanating from votaries of the religion of sexual virtue have created an atmosphere of hypocrisy in speech and thought that influences writing. And so, if in some future age the expression of human thought comes to be liberated from sex "ties" just as it has already been freed of the ties requiring deference to the Bible, people desiring to understand the thought of writers of our day will have to take account of the masks with which it is disguised in deference to contemporary prejudices. Another cause may have been the scientific inadequacies of ordinary language. If Bayle had not had at his disposal such terms

as "religion" and "morality," which seem to be exact but are not, he would have been compelled to deal with things instead of with words, sentiments, fictions; and in that case perhaps he might not have lost his way (§ 114).

367. But his case is merely typical of a vastly populous class of cases where error in argument is directly proportionate to defects in language. Anyone, therefore, desirous of remaining in the logico-experimental field and concerned not to be led astray into the domain of sentiment, must ever be on his watch against this the greatest enemy of science (§ 119). In social matters, human beings as a rule use language that lures them away from the logico-experimental domain. What does such language really mean? We have to be clear on that question before we can go farther, and to it we shall devote the chapter next following.

CHAPTER IV

Theories Transcending Experience

368. We are still with our induction. There are phenomena to which certain names are given in ordinary language: there are narrations, theories, doctrines, that refer to social facts. How are we to take them? Do they correspond to anything exact (§ 114)? Even when suitably retouched in form, can they be classed as logico-experimental theories (§ 13), or are they to be taken as non-logico-experimental? Even when grouped with the latter, do they correspond to something, at least, that is definite?

The study here in hand relates exclusively to the logico-experimental validity that certain arguments may (or may not) have. For the time being we deliberately ignore all questions as to the sentiments they hide, their persuasive force, the possible social utility of the underlying sentiments, and hence of the things that provoke them. Here, in a word, we are considering theories strictly from the objective standpoint (§ 13).

Interesting and very important for sociology are the phenomena designated in ordinary language by the terms "religion," "morality," "law." For centuries people have quarrelled about those terms, and so far they have reached no agreement even as to what they mean. They have been defined in many many ways, and since the definitions do not coincide, people have come to designate different things by the same names—an excellent means for never coming to an understanding. What is the cause of that? And should we try to add other definitions to the many already given? Or would it not be better to try to get at the character of such phenomena in some other way (§ 118)?

369. We have narratives, such as the Gospel according to St. John, that many have taken and still take to be historical narrative. Others say that it is just allegory; others that it is allegory combined with history; while still others claim to have a formula for separating

what is historical from what is allegorical. Similar opinions were once current with regard to the myths of polytheism, and the procedure seems to be general. What are we to think of these various opinions? Should we select one from among them? Or is some other path open to us? There are no end of theories on morality, law, and so on. If we could find that one among them was true in the sense that it fits the facts, our task would be appreciably easier. But if we can find none such, how are we to proceed?

370. Induction may put us in the way of recognizing certain experimental uniformities. If we succeed in finding them, we can then proceed in the opposite direction, that is, deductively, and compare our inferences with the facts. If they are in agreement, we can accept the hypotheses we have been using—the experimental principles obtained in our induction. If they are not in agreement, we must reject those hypotheses, those principles (§§ 52, 69).

371. Suppose we stop for a moment and examine the term "religion"—and what we say of religion will apply by analogy to other terms of the kind, "morality," "law," and the like, which will frequently be crossing our path. To admit *a priori* the existence of religion (morality, law) leads to seeking the definition of it; and *vice versa,* the search for the definition presupposes the existence of the thing for which a definition is sought. It is a most impressive fact that all attempts so far made to find definitions of that kind have failed. Before going farther, we must recall the distinction between real movements and virtual movements (§§ 129-30). At present we are studying real movements only. We are, in other words, dealing with what *is:* we are not trying to discover what *ought to be* in order that this or that end may be attained.

372. Now a confusion is usually present in the use of the words "religion" ("morality," "law"). Not only are the investigations of real movements and virtual movements often confused, but even when they are distinguished and a writer declares he is keeping to real movements, two, or, to be more exact, many aspects of real movements are not kept distinct, or are not kept clearly distinct.

373. In fact, theory has to be kept distinct from practice. In a given

people at a given period of history there is a theoretical religion (morality, law) and a practical religion (morality, law). We say *a* religion, *a* morality, *a* law, for the sake of brevity: really there are more than one, many many more than one, even where there is apparent unity (§§ 464 f.). These facts are undeniable, but they are usually stated in such a way as to minimize their importance as far as possible.

374. We observe, accordingly, that a certain religion (morality, law) is assumed to exist. For the believer it is the one he calls "true." Of it the theoretical religions observable are deviations, and practical religions are in their turn deviations of the theoretical religions. For a parallel, there is a given theorem in geometry. It may be demonstrated more or less well—and so we get theoretical deviations; it may be understood more or less well—and so we get practical deviations. But all that does not lessen the strict truth of the theorem as stated.

375. If the comparison held to the very end, the meaning of the term "religion" ("morality," "law") would be as exact as one might wish. The term would designate a certain type that might even be inferred from existing facts—a thing not possible with a theorem in geometry—by stripping the facts of incidentals and keeping to essentials, or else, as the evolutionists would have it, by determining the limit towards which the facts tend.

376. Unfortunately that is not the situation. Everybody is firmly convinced that *his* religion (morality, law) is the *true* type. But he has no means of imparting his conviction to anyone else. He cannot appeal to experience in general nor to that special kind of experience represented by logical argument. In a dispute between two chemists there is a judge: experience. In a dispute between a Moslem and a Christian, who is the judge? Nobody (§§ 16 f.).

377. In our times there are people who think they can evade this dilemma by abandoning the supernatural; they imagine that divergences can arise only in that domain. But they are wrong, just as the various sects of Christianity were wrong in a day gone by in believing that differences of opinion arose only from varying interpreta-

tions of the Scriptures which themselves were above discussion.

378. From the logico-experimental standpoint nothing is gained by replacing supernatural beings with metaphysical principles; for the metaphysical principles can be affirmed or denied as readily as the existence of a god, and there is no judge to settle the dispute (§§ 16 f.).

379. It is of no avail to appeal the issue to public indignation. Certainly, at the time of the quarrels between Lutherans and Catholics, to have asserted that from the logico-experimental point of view the Scriptures had the same value as the *Theogony* of Hesiod would have been to arouse general, not to say unanimous, indignation in Europe. And in the same way to dare question in our day the dogma that the sole purpose of society is the "good of the greatest number," and that it is the strict duty of every individual to sacrifice himself for the good of the lowly and the humble, would be to arouse if not universal at least fairly general indignation. But scientific problems are solved by facts, not by the holy horror of the few, the many, the all.

380. Along that route, therefore, we can never get to sharply defined meanings for our terms. Yet that is the first thing to be done if we would discuss matters of science fruitfully; whereas if the same term is used in a different sense by each individual, rigorous argument becomes impossible (§§ 442, 490, 965).

381. That manner of reasoning, moreover, has the very serious defect of bringing into the matter of definition disputes that should not arise until, owing to clear definitions, we can state exactly what the argument is about (§§ 119, 387, 963).

382. If one sets out to define what the "true" religion is, or the "type" religion, or the "ultimate" religion, it is evident that such a definition cannot be left to the choice of one's adversary, since the term contains a thesis: it asserts that the thing defined is the thing that corresponds to the truth, the type, the limit. That is the chief reason why physicists never dream of quarrelling over the name to be given to X-rays, chemists over the term "radium," or astronomers over the names for any one of the countless asteroids (except in cases

where the personal vanity of some discoverer may be involved); whereas no end of breath is still being wasted over the definition to be given to "religion" ("morality," "law") (§ 119).

383. Here is Salomon Reinach, writing a book called *Orpheus: A General History of Religions* and which might be better called *A General History of Religions, as Viewed in the Light of the Dreyfus Case*. He believes that the dogmas of the Catholic, in fact of the Christian, religion are false, whereas the dogmas of his humanitarian-democratic religion are true. He may be right. He may be wrong. We are not going to argue that point; nor do we think that experimental science can be of the slightest service in solving such a problem. At any rate, the problem ought to be treated independently of definitions, whereas Reinach tries to make his readers accept a definition that will help him to establish his thesis. His adversaries are getting support from Catholic beliefs; so he tries to show that that religion is, substantially, nothing more nor less than the tabooism of the backward peoples. For that reason he has to eliminate from the very definition of "religion" everything corresponding to a higher intellectual grade. That he does quite skilfully, for his definition does not after all go very far wide of the facts (§ 1032).[1] But his theses, be they true or false, ought to be stated as theses—as proposi-

383 [1] *Orpheus*, Chap. I, § 5 (Simmonds, p. 3): "I intend to define religion as a 'sum of scruples that interfere with the free exercise of human faculties.' . . . The scruples in question . . . are of a special kind. . . . I will call them 'taboos.'" He goes on to explain that the scruple involved in the taboo "is never based on any rational consideration of a practical order, such as fear of getting pricked or otherwise hurt, in the case of a tree-taboo." Just previously (§ 1), Reinach had said: "Mythology is an assemblage of concocted stories—not invented, but capriciously combined and embellished—where the characters are beyond all verification in positive history. Religion, primarily, is a sentiment, plus the expression of that sentiment by acts of a special kind, namely, rites." Reinach is here considering mythology not as in process of formation, but as a thing ready-made and fully developed, perhaps even in the first stages of decadence—at a point, at any rate, where without scruple poetical elaborations may be appended to popular beliefs (§§ 1086-88). Accepting for the moment that very special standpoint, it is evident that in what he says Reinach takes account, though in no very specific terms, of both logical and non-logical conduct. Religion would be essentially non-logical, made up of what we are to call *residues* (Chapter VI). Mythology would, essentially, be a matter of literary and logical embellishments, of what we are to call *derivations* (Chapter IX).

tions subject by their very nature to controversy—and not tucked into a definition, which is, in part at least, at the arbitrary discretion of the author.

384. But here, on the other side, rises Father Marie-Joseph Lagrange, who believes that the Catholic dogmas are *true* and who naturally cannot, on pain of suicide, accept Reinach's definition. He says: "M. Reinach seems to think that a good definition has to apply to the full breadth of meaning which a term has acquired even by abuse." [1] In that we get, fundamentally, the concept of the "type" religion: once you depart from the type, you fall into an "abuse." Father Lagrange ignores the fact that what is for him a type is for someone else an abuse, and *vice versa.* He continues: "Because people speak, abusively—the figure is called catachresis in rhetoric—of a 'religion of honour,' that definition has to be accounted for in the definition of religion in general!" Yes and no! Yes—it has to be included if one is trying to define "what people call religion," just as the definition of the conjugation of an irregular verb has to be accounted for in a general definition of conjugation, if one is trying to define "what grammarians call conjugation"; and there is no point in debating whether the irregular conjugation is abusive or whether the regular conjugation is the abuse. Or no—the particular definition need not be accounted for in the general definition if one has *previously* and *explicitly* excluded facts of a certain order—a thing that Father Lagrange is not at all inclined to do. I can say that in Latin the active verbs of the first conjugation form their future in *-abo, -abis, -abit* . . . ; because when I specify "active verbs of the first conjugation," I previously and explicitly exclude all other verbs. But I could not give those endings for verbs in general and then, when I am shown the future forms *legam, leges,* for the verb *lego,* get out of my predicament by saying that *legam* is an abuse. I can say (it might not be true) that "originally" the active endings of the principal tenses of Greek verbs were *-μι, -σι, -τι* . . . because I have explicitly and in advance specified that I am dealing with *original*

384 [1] *Quelques remarques sur l'Orpheus de M. Salomon Reinach,* pp. 8-9 (Martindale, p. 11).

forms, a qualification which permits me to disregard verbs in -ώ by holding (rightly or wrongly) that they are not primitive or original. But I could not state sweepingly, without specific qualification as to origins, that Greek verbs ended in -μι, -σι, -τι . . . and then try to be rid of the verbs in -ω by calling them an abuse. In short, what is Father Lagrange trying to define? What people *call* religion (a linguistic question)? Or something else? And in the latter case, just what is the something else? Unless he tells us, we cannot decide whether his definition is good or bad.

385. Father Lagrange continues: "And we wind up with this definition of religion: *a sum of scruples that interfere with the free exercise of human faculties!* One would think it a question of a bet; for, with triumphant ingenuousness, Reinach proceeds to observe that his definition eliminates from the fundamental concept of religion everything that people commonly regard as the proper object of the religious sentiment!"

386. So it would seem that Father Lagrange is looking for what is *commonly* designated by the term "religion." That would take us back to the linguistic question. But look out for that word "commonly"—for in it treachery lies! What does it mean—"commonly"? Are we to compile statistics of the opinions of mankind? And only of people living today, or also of people who have lived in times past? Of Europeans only, or of all human beings who are living or have lived on the face of the earth? And are we to *count* opinions, or are we to *weigh* them (§595)? If we weigh them, with what scales? It would seem as though Father Lagrange were inclined to weigh them, since he calls some of them abusive; but in that case we may rest assured that if he selects the scales, they will register the weights he wishes them to register; and that if his adversary selects them, they will show an entirely different weight. Then again, besides religion in general there are religions in particular. What are we to do with them? In order to bar them, we have to go back to the theory of the type religion.

387. Father Lagrange adds: "It is another way of saying that M. Reinach's definition is contemptible. Logicians undoubtedly

grant that a word has only the sense that is given it; but to define a traditional term in a sense counter to the general acceptation is a childish jest or a trap for fools."

But, just a moment! Can we be so sure? The thing that chemists call water is not what is commonly called water; nor is the gold of the chemists the gold of ordinary language. For the multitude a five-dollar gold-piece is made of gold; for the chemist it is a mixture of gold and copper with traces of many other elements. It was not at all a "childish jest" to define chemical bodies in a manner counter to "general acceptations"; on the contrary, that was the only thing to do to elevate chemistry to dignified status as a science (§ 115). Reinach is perfectly free to define the term "religion" counter to "general acceptation," provided: (1) that he gives a definition that is clear and exact; (2) that he does not confuse the thing which he is defining with some other thing that bears the same name; and (3) that there is some advantage in his new definition to compensate us for our trouble in remembering that the "religion" of Reinach is not the "religion" of other people. To spare us that trouble and avoid all danger of misunderstandings, it would be well if, instead of employing a term already in use, he were to use some other (§ 117), saying, for example: "I will call *X* the sum of scruples that interfere with the free exercise of human faculties." After that, but only after that (§ 381), he might formulate a thesis such as this: "*X* will be found present in everything that human beings call religion, and nowhere else." It would then be possible to verify on the facts the truth or falsity of the proposition (§ 963).

388. Suppose we do that now. From no other standpoint can experimental science envisage such questions. The chemist tells us that water is a compound of hydrogen and oxygen. The first of the conditions that we laid down is satisfied. The second is also satisfied, because in no treatise on chemistry is chemically pure water ever confused with the thing commonly known as water. And likewise satisfied is the third, because the advantage of knowing the exact composition of the thing called water is self-evident (§§ 108, 69[5]). Then we are told that chemical water is the principal

ingredient of the thing commonly called water that is found in wells, lakes, rivers, the sea, the rain. We verify the proposition and see that it is true. If someone went on and said that chemical water is not the principal ingredient in things not commonly known as water, the verification would not turn out so well; for water is the principal ingredient in wines, beers, syrups, and the like.

389. To avoid ambiguities, suppose we give a name to the thing defined by Reinach and call it religion-α. If we find that religion-α is identical with ordinary religion, so much the better for Reinach's religion. We are in no way disparaging his religion by calling it religion-α. The latter is simply a label we append to the thing to help us keep track of it (§ 119).

390. Certain it is that many religions which are and have been the religions of millions and millions of human beings—for instance, Indo-European polytheism, the Judao-Christian and Moslem religions, fetishism—contain religion-α. But all those religions—with the exception, partial at least, of fetishism—contain another thing which we may call religion-β (§ 119), and which, to use words of Father Lagrange, is "a belief in higher beings with whom it is possible to establish relations."[1] But now, which is the principal element in the things commonly known as religion, religion-α, or religion-β? In order to answer, we have to know the exact meaning of the term "principal." When we were comparing chemical water with river water, by "principal element" we meant the element having the greatest weight. Chemical analysis of river-water showed that the chemical water contained in it weighed more than all other ingredients. But how are we to *analyze* religions, and how are we to *weigh* the elements in them?

391. It may be said: "The principal element in religions is the belief in higher beings, since it is from that belief that the scruples

390 [1] *Etudes sur les religions sémitiques,* p. 7: "Everybody agrees at least that there is no religion apart from belief in higher powers with whom relations may be established." But "everybody" is in no such agreement. "Everybody" includes Reinach, and Reinach seems not to agree! But why do those two gentlemen insist on giving the same name to different things? Simply because they have an ax to grind on the sentiments the name arouses!

mentioned by Reinach logically emanate." To which the answer may be made: "The principal element in religions is the scruples, since the fact of their existence provoked in human beings the belief in higher powers"—the Romans had two sayings: "If there are gods, there is divination," and "If there is divination, there are gods." [1] In the theorems mentioned the word "principal" seems to mean "anterior in time." But even though it were demonstrated that belief in superior powers came first and scruples afterwards, it would by no means follow that at some later time the scruples were not the whole thing in religion, or the more active element in it. And if it were demonstrated that the scruples antedated the belief, it would in no wise follow that at some later date they had not yielded first place to belief in higher powers.

392. If one asks, then, "Are the religion-α and the religion-β present in all phenomena called religions?", the answer has to be no. On the one hand religion-α is more wide-spread than religion-β. In fetishism and tabooism in whole or in part, in modern free-thought, in Comte's positivism, in the humanitarian religion, in the metaphysical religions, there are scruples but no higher powers —at least no such powers are distinctly present. It is true that Comte ends by creating fictitious entities, but in theory they remain fictitious throughout. That fact merely shows that where there are such scruples, there is a propensity to explain them by a resort to higher powers.

393. On the other hand, there are some few cases where if religion-β is defined strictly as recognition of the existence of higher beings, it may be said that religion-β exists apart from religion-α, or at least, without any dependence of the latter on the former. Take,

391 [1] Cicero, *De divinatione,* I, 5, 9: "My opinion is that if those sorts of divination which we have inherited and practise are true, there must be gods; and that *vice versa* if there are gods, there must be people to know their will"—*i.e.,* there must be divination. *Idem, De natura deorum,* II, 3, 7: "What else do prophecies and presentiments of the future mean except that things that are to be are portended, 'signed,' predicted to men? That in part is why they are termed 'signs,' 'portents,' 'prodigies' "—[*i.e., prodigium* from *praedicere.*—A. L.]

for example, the religion of the Epicureans.[1] If we are told that we must not consider it because it is a scandalous thing, the reply is that we are not investigating the composition of *praiseworthy* religions, but the composition of all beliefs that are or have been called religions. And if it were said that the Epicureans too had scruples, we should reply that if the term "religion-α" is to be defined as broadly as that, then religion-α is everywhere present, for there is not and there has never been a human being in the world who does not have, or has not had, some scruple or other. In that case the term "religion-α" defining everything would define nothing.

394. There is, again, a sect of Buddhism that shows no trace of the second half of the definition of religion-β—of relations established with higher beings. In fact that half is explicitly rejected, as witness the conversation between Guimet and three Japanese theologians:[1]

"*Q.* My first question bears on the origin of the heavens, the earth, and everything about us. How do you explain their formation, according to the principles of the Buddhist religion?

"*A.* The Buddhist religion ascribes the existence of all things to what it calls In-En [Cause-Effect]. Each thing is only a combination of infinitely minute atoms. Those atoms combine to form moun-

393 [1] Cicero, *De natura deorum*, I, 19, 51. Explaining views of Epicurus he says of the nature of a god in a passage that is celebrated: "He does nothing. He has no worries or preoccupations. No exertion is required of him. He rejoices in his knowledge and virtue; and he can look forward to an eternity of infinite beatitude." *Cf.* Diogenes Laertius, *Epicurus*, X, 139 (Hicks, Vol. II, p. 663): "Such a one is immortal and blissful. He has no worries of his own, nor does he create them for anyone else."

394 [1] *Annales du Musée Guimet*, Vol. I, pp. 307-44: *Notes abrégées sur les réponses faites dans le Hioun-Kakou . . . par MM. Simatchi, Atsoumi et Akamatsou aux questions de M. Emile Guimet:* "The *Siu-siou sect,*" says M. Guimet, "is one of the strongest, as regards membership, in Japan." Note that Guimet and others call the thing here in question a religion. Anyone accepting the thesis of Father Lagrange might deny that such a thing could be called a religion, saying that such a name would be an abuse. But if one can get rid of facts contrary to a theory simply by calling them an abuse, it is obvious that no theory will ever fail of verification, and that it is a waste of time to go on investigating. We are here examining the peculiarities of things that have been called religions, not the traits of things that one writer or another would like to have called by that name.

tains, rivers, plains, metals, stones, plants, and trees. Such objects come into being from the natural relationship of their In and their En, exactly as all living beings are born by virtue of their In-En.

"*Q*. Is there no creator of the heavens, the earth, and all other things?

"*A*. No.

"*Q*. What is this thing which you call In-En?

"*A*. Nothing is formed naturally and of itself. It is always the relation of a this to a that that constitutes a thing. . . .

"*Q*. . . . I now ask you whether the conduct of human beings depends in any way on God.

"*A*. A man is responsible for his own conduct. It in no way depends on God. [No trace so far of any relations with higher beings, which, according to Lagrange, *everybody* recognizes!]

"*Q*. Do you not admit that God exerts an influence on humanity and guides us in the performance of our various acts of invention or improvement?

"*A*. The Buddhist religion admits of no creator. It ascribes everything to the In-En. It thereby declares that every human act is performed on the individual's initiative without any interference on the part of God.

"*Q*. It is evident that the term God is not the proper one. Nevertheless your religion does recognize a higher being, Amida, which it venerates and devoutly worships. Well, does not the power of Amida have some influence on human conduct?

"*A*. The differences prevailing among individual human beings, as regards their personal value and the value of what they do, depend more or less on the education they have received, and not at all on the will of Amida. . . .

"*Q*. I would readily admit that knowledge may be increased by effort . . . but, at the same time, in the domain of ethics, in the distinction between right and wrong, between what is just and what is unjust, does it not seem that there must be a higher being who rewards or punishes us for our conduct, much as the social authority punishes us for infractions of the rules of public order?

"*A.* Every good and every evil act has as its consequence a blessing or a sorrow. That results from the altogether natural conception of the In-Goua [synonym of In-En]."

395. Farther along: "*A.* In Buddhism at large, one often hears of prayers to the divinity that have been answered. Our sect absolutely forbids such prayers." If we choose to regard the two parts of the definition of religion-β as forming an inseparable unit—that is, the belief in higher beings plus the belief that it is possible to establish relations with them—we should have to conclude that religion-β is not present in the two religions just mentioned; and we would hardly know where to place them, for they do not fall, either, under the definition of religion-α.

396. We can only conclude, therefore, that as usual the terms of ordinary language do not lend themselves to rigorous classifications. Chemistry, physics, mechanics, and the other natural sciences were never built up by studying and classifying the terms of ordinary language, but by studying and classifying facts. Let us try to do the same for sociology.

397. Meanwhile, and still by way of induction, we discover that the definitions of Reinach and Lagrange are of a different character. Their authors may not have been aware of it, but they aim at classifying quite different orders of facts: Reinach's, certain states of mind; Lagrange's, the explanations that are given of them. Can it be that those two orders of facts are in general profitably to be distinguished, classified, examined? We shall see. Here at any rate there is a substantial difference, not a mere difference in the forms of ordinary parlance. For the moment let us go on with the inquiry in hand.

398. The difficulties encountered in efforts to define the terms "law" and "morality" have proved quite as serious as was the case with the term "religion." No way has yet been found even to distinguish law from morality. At one extreme we get a definition that is grossly empirical. We are told that law consists of a body of norms that are sanctioned by a public authority, and that morality consists of a body of norms imposed only by conscience. Such a

definition is satisfactory enough for the practical purposes of lawyer and judge; but it does not have the slightest scientific value, since it assumes for criteria elements that are secondary and changeable—it is like classifying birds by the colours of their feathers. An action passes from law to morality or from morality to law according to the will or caprice of the legislator. The classification therefore may register such will or caprice, but not, as our purpose was, the intrinsic character of the act. Moreover, such a classification becomes useless when, as was the case in epochs remotely past, no public authority interferes to proclaim or enforce private law. Modern civilized countries have written codes, and it is an easy matter to determine whether a given act is or is not regulated by law. The definition in question is experimental, clear, exact; but that does not help very much, since it fails to classify the things which we were trying to understand.

399. If, furthermore, we try to consider things intrinsically, we are brought to considering "essences," and are so lured gradually away from the experimental field to go wandering about among the clouds of metaphysics, eventually arriving at the other extreme, where all objective reality goes by the board.

400. There are some who are candid enough to admit as much. Adolf Franck says:[1] "The idea of law, considered in itself, independently of the applications of which it is susceptible, and of the laws more or less just that have been made in its name, is a simple, absolute idea of reason and is therefore beyond any logical definition." At last! That unequivocally recognizes the fact that the concept of law belongs to a category within the domain of non-logical conduct; and unless some other theory, some theory of *innate* ideas, comes to our rescue, we have to admit that such a concept varies according to times, places, and individuals. To deny that, we should have to attribute an objective existence to "simple ideas"—the kind of existence once enjoyed by the gods of Olympus.[2]

400 [1] *Dictionnaire des sciences philosophiques, s.v.* "Droit."

400 [2] Others try to hide the conflict with reality under ingenious subtleties, the way people ordinarily do in trying to logicalize non-logical conduct. With that matter we have already dealt in Chapter III.

401. Theories of "natural law" and the "law of nations" are another excellent example of discussions destitute of all exactness. Many thinkers have more or less vaguely expressed their sentiments under those terms, and have then exerted themselves to link their sentiments with practical ends that they desired to attain. As usual, they have derived great advantage in such efforts from using indefinite words that correspond not to things, but only to sentiments. We are now going to examine such manners of reasoning for such correspondence as they may (or may not) have with experimental reality. But the conclusions we reach must not be carried over into any other field (§ 41). The question of their experimental validity is independent of any question of their social utility; and a theory may be as beneficial as one could wish under certain circumstances and in this or that period of history without having any bearing at all on experimental realities. "Natural law" is simply that law of which the person using the phrase approves; but the cards cannot be ingenuously laid on the table in any such terms; it is wiser to put the thing a little less bluntly, supplement it by more or less argument.

402. The objections that might be raised against any assertion of natural law are met in the following way: "Why must I subscribe to your opinion?" "Because it is in accord with reason." "But I am using reason too, and my idea is different from yours." "Yes, but my reason is *right* reason" (§§ 422 f.). "How comes it that you who are blessed with this right reason are so few?" "We are not so few: our opinion enjoys universal consensus." "And yet there are some who think differently." "I should have said the consensus of the good and the wise." "Very well! It was you then, the good and the wise, who invented this natural law?" "No, we got it from Nature, from God."

403. The resources on which defenders of natural law rely are chiefly: right reason; nature, with its appendages, rational nature, state of nature, conformity with nature, sociability, and the like; the consensus of all mankind, or of some essential part of mankind; the divine will.

404. Two questions especially are envisaged: (1) the authorship of

natural law, and (2) the manner of its revelation.[1] God may be the author of natural law either directly, or else indirectly by means of Right Reason or of Nature, His servants. Nature may be the author of natural law either directly or, preferably, indirectly, by having engraved on the human mind a picture of natural law (or merely of *law*), which is forthwith discovered by right reason, or else by observing either general opinion or the opinion of the best-qualified individuals. It is possible also to speculate as to what humanity would be like in a "state of nature," a state that, to tell the truth, no one has ever seen, but with which metaphysicists are so well acquainted that from that state (so well known to them, to other people entirely unknown) they derive their knowledge of things which the rest of us have before our very eyes and might therefore know directly. Finally, Right Reason can command observance of natural law on its own unsupported authority.

405. Natural law may be revealed to us directly by God through writings inspired by Him—but that is a very rare case. Direct observation of the consensus of mankind, or of a part of mankind, might also reveal natural law directly; but that method, in point of fact, is seldom if ever followed. Really the function of revealing natural law belongs properly to Right Reason, either as its own production, or as deriving from Nature, or from God; or from universal consensus or some more limited consensus.

406. It is quite generally asserted, in substance, that the concept of natural law is inherent in the human mind. Some indication as to the source of the concept is often added, with further support of the consensus of all mankind, or of the best-qualified individuals. Ordinarily, almost all such weapons are used at the same time, because it is better to appeal to the greatest possible number of sentiments; and the various manners of revelation are themselves declared to be in accord with one another, again for the same reason.

407. The subjective argument by accord of sentiments seems to be as follows: It is perceived that existing laws are not an arbitrary,

404 [1] We encounter here, in a particular case, general methods of logicalization that we shall treat in Chapters IX and X.

nor even an entirely logical, creation—that they contain a substratum not due to any volition but subsisting by itself. That induction is in accord with the facts, and it ought to be stated in this form: "There are certain principles of non-logical conduct from which human beings deduce their laws. Such principles of non-logical conduct (or 'residues,' Chapter VI) are correlated with the conditions under which human beings live, and change with those conditions."

408. But in that form, which emphasizes the relative, subjective, non-logical character of the principles, the argument is repulsive to metaphysicists and theologians, and even to a large number of mere students of social matters. What they want is something absolute, objective, logical, and they invariably find it by using indeterminate words and defective reasonings ("derivations," Chapter IX). In the case in hand, the absolute and objective is sought in the consensus of the many or the all, in conformity with Nature, in divine will. Of all those things, or of some of them, they have most favourable opinions. They must therefore be in accord with that other thing, natural law, of which they have an equally high opinion: and logic must supply us with the nexus that brings the two excellences together (§ 514). In such theories, ever peeping out from under the various disguises, is the notion of a contrast between something that is constant and good ("natural" law) and something else that is variable and not so good ("positive" law); and that contrast is chiefly responsible for their conviction, and the conviction of those who agree with them (§ 515).

409. Whether the one or the other of these procedures occupies the forefront is altogether a matter of individual preference. Christians, of course, cannot do without God; but it is interesting that they make His interposition not so much direct as indirect. That may be because the metaphysicist overbalances the Christian in them. But pure metaphysicists are satisfied with Right Reason.

410. Aristotle finds it characteristic of natural law that it has the same force everywhere. That does not mean that it is always the

same in every place, since there may be natural variations.[1] He uses that reservation to answer the denial of natural law on the ground of variations in the law of nations. In the *Rhetoric,* I, 13, 2 (Freese, p. 139), he expresses himself thus: "I say that law is peculiar or common (ἴδιον καὶ κοινόν). That law is peculiar which some ordain for themselves, and it may be written or unwritten. Common is that law which is in accord with Nature, since there is a just and an unjust by nature, which all people divine, though neither communication nor understanding exist between them."[2] Such really would be principles of non-logical actions, which are common to human beings everywhere, varying according to the conditions under which they live. Aristotle's theory would seem, therefore, to give first place to Nature. Universal consensus would be the means by which that origin according to Nature manifests itself.

411. Just how the things that have the same force everywhere are to be distinguished from those which do not is hard to imagine. Aristotle thinks he can show how, and he gives the example [*Ethica Nicomachea,* V, 7, 2 (Rackham, p. 295)] of a law prescribing that a goat and not a sheep should be sacrificed to Zeus. In fact, at first sight, it would seem evident that such a law must be arbitrary; but a slight modification in terms is enough to endow the prescription with the trait of pseudo-universality required by natural law. We need only say: "In every locality local customs must be observed. In our country it is customary to sacrifice a goat, and not a sheep; hence a goat must be sacrificed."

412. In one and the same treatise Cicero sways back and forth between the various demonstrations, so betraying the fact that it is not

410 [1] Aristotle, *Ethica Nicomachea,* V, 7, 1-4 (Rackham, p. 295): "Of political law a part is natural, a part legislative. That law is natural which everywhere has the same force and does not depend on opinion." *Idem, Magna moralia,* I, 33, 19 (Stock, p. 1194b, l. 30): "Some just things are so by nature, some by legislation." He goes on to say that natural things too can change; and he gives as an example the fact that one could use the right hand and the left hand indifferently, but that that would not preclude our still having a right hand and a left hand. Then he adds: ". . . the law that endures is most often just according to nature." And then: "Justice according to nature is therefore better than justice according to law."

410 [2] He says further, I, 10, 3 (Freese, pp. 105-07): "I call . . . that [law] common which, though not written, seems to be recognized by all."

the conclusions that follow from the demonstration, but that the demonstration is selected for the purpose of obtaining the conclusions. In his essay *On Laws, De legibus,* I, 6, 20, he says: "I will seek the origin of law in Nature (*repetam stirpem iuris a Natura*), who must be our guide in this whole matter." Here the appeal is to Nature directly; but a few lines above, I, 6, 18-19, she was brought in indirectly, and first place was given to a Supreme Reason, and Cicero continues: "Law is Supreme Reason implanted in Nature (*lex est ratio summa insita in Natura*), who bids us do the things we ought to do and forbids us their contraries. When this reason has been established and elaborated (*confirmata et confecta*) in the minds of men, it becomes law. . . . If that is well said—and I am of opinion that on the whole it is—right has its origin in law; for law is the force of Nature; it is the mind and the reason of the wise man, and the measure of what is just and what is unjust."

413. In this enumeration of highly estimable things divinity was missing—but not for long; II, 4, 8: "I observe that it has been the opinion of the wisest that law is not devised by human intelligence nor is it the decree of peoples, but something eternal that governs the whole world with the wisdom of its prescriptions and interdictions. Wherefore it has been said that law is the primal and ultimate mind of God, who prescribes and prohibits in all matters through reason. Rightly to be praised therefore is a law that the gods have bestowed upon the human race: for it is the reason and the thought [mind] of a wise being qualified both to command and to dissuade."

414. Elsewhere, I, 7, 23, right reason is said to be the law; and since right reason is common to gods and men, the latter stand in partnership with the gods—no more, no less: "Since nothing is better than reason and since it exists both in man and in God, a first partnership of reason exists between man and God. But those who have reason in common have also right reason in common, and since right reason is the law (*quae cum sit lex*) we must consider

ourselves as brought through the law into partnership with the gods."

415. Then we are back with Nature again, II, 5, 13: "Law, then, is the distinction between what is just and what is unjust, modelled on that most ancient Nature, the beginning of all things." That blessed Nature is like an elastic band: it can be stretched to any length required, I, 8, 25: "Virtue is nothing but Nature perfect in itself and carried to its limit."

416. One cannot read all that without seeing that Cicero has a clear conception of a law that is not conventional. It comes out when he says, I, 10, 28, that "not by opinion, but by Nature was law constituted (*Neque opinione sed Natura constitutum esse ius*)." But then his ideas as to the origin and nature of such a law grow confused. He goes groping about to find every perfection he can think of to piece together with the high conception he has of law.

417. Little or no progress has been made since Cicero's time; and writers on natural law continue to make all possible combinations of the same concepts; save that the God of the Christians replaces the pagan gods, a scientific varnish is applied, and a pseudo-science is invited to reveal just what Milady Nature would have us do.

418. Roman jurists often put their theories under the protection of a certain natural law (*ius naturae, naturale*) common to all men and even to animals. They have been defended in that on the ground that human beings and animals have in fact certain mental traits in common. But it is not in the least with such traits that we are concerned; nor do they in any sense assume any authority as principles of law such as the champions of natural law envisage. So, in the very same fashion, from the fact that certain good or bad traits in a parent affect the character of his progeny, people have tried to conclude that it was "just" that the children should be punished for the sins of their fathers (§§ 1979 f.). Such reasoning involves a confusion between a state of fact and a state of "right," between what happens and what one should try to have happen. It is one thing to say, "The progeny of a syphilitic parent have certain diseases," and quite another thing to say, "The syphilitic father

should be punished in his child, by inoculating the latter with diseases he does not have."

So also the term "solidarity" has been given to correlations between animals and human beings, or between human beings, with an inference from that fact of something altogether different—a certain "obligation" or "law" of solidarity (§§ 449-450).

419. In the proemium of the *Institutes* of Justinian, I, 2 (*Corpus iuris civilis,* Vol. I, p. 3; Scott, Vol. II, p. 5), we are told: "Natural law is that which Nature imparts to all animate creatures; for this law is not peculiar to mankind, but is shared by all animals that live in the air, on the earth, and in the sea. Hence comes the union of male and female that we call matrimony, the procreation and education of offspring. We see, in fact, that the animals have knowledge of this law." If we strip off the trappings of sentiment which disguise this passage it becomes frankly comical. The compilers of the *Institutes* are not content with saying "all animals"; they hammer on the point, so that every doubt may be dispelled and their period turn out more rhythmical: it is a question, no more, no less, of "all animals that live in the air, on the earth, and in the sea." So we get a natural law of earthworms, fleas, lice, flies, and in our day we might add, of infusoria. And not only does this pretty law exist; the animals know it—a thing, in truth, marvellous beyond words!

420. And in proof—the institution of matrimony is brought forward! Among certain species of spiders the male seizes the moment in which the female is not looking to rush upon her and copulate. He then flees as fast as his legs can carry him because the female will devour him if she gets her claws on him. Strange indeed how these animals *know* the natural law of matrimony—and use it!

421. To make law accord with the facts, the compilers of the *Institutes* use a method that is a very common resort: they introduce sly alterations in the meanings of terms. They say (*Corpus iuris civilis,* Vol. I, p. 3; Scott, Vol. II, p. 5): *"Hinc descendit maris atque feminae coniugatio* (variant, *coniunctio*), *quam nos matrimonium appellamus."* ("Hence comes the union of male and female that we call matrimony.") But this they contradict later on when they say,

I, 10, 12 (*Corpus,* Vol. I, p. 6; Scott, Vol. II, p. 15): *"Si adversus ea quae diximus aliqui coierint, nec vir, nec uxor, nec nuptiae, nec matrimonium, nec dos intelligitur."* ("If some unite in ways different from those specified, they cannot be known as husband and wife, nor is there either wedlock or marriage or dowry.") In one place they say that simple copulation, as in the case of animals, is what they mean by *matrimonium.* In the other place they withhold that name from unions which do not have certain other traits. Of the two contradictory propositions, one has to be eliminated—and better the first, since it is certain that in the language of law *matrimonium* is something more than simple copulation.

422. The law of nations (*ius gentium*) is declared to be imposed by natural reason (*naturalis ratio*). This natural reason is a beautiful creature to whom one may resort in distressing predicaments and use to demonstrate many fine things. It is also called right reason (ὀρθὸς λόγος), true reason, just, honest reason, and the like. It is not explained how the reason worthy of these exalted epithets is to be distinguished from the reason which has to go without them. But at bottom the former is always the one that meets the approval of the writer who bestows the laudatory epithet.

423. A person whom we shall call Primus observes that $A = B$. A person whom we shall call Secundus denies it. Primus thinks he proves his assertion when he says that $A = B$ because right reason will have it so. But why is the reason of Primus "right" reason, while the reason of Secundus is not? Who is to pass judgment in the dispute? If now a Tertius comes forward and says that to his mind the reason of Primus is right reason, that only proves that on the subject in hand Primus and Tertius happen to think alike; and what has that got to do with the other fact that $A = B$? If not only Tertius, but several individuals, many individuals—all men—agree with Primus, that fact continues to have no bearing on the objective proposition that $A = B$, except for people who take such consensus as proof of the theorem. But if we are going to reason in that fashion, it would be as well, and in fact much better, to bring on the consen-

sus in the first place, without dragging in right reason for the pleasure of chasing it away again! All that, of course, from the logico-experimental point of view. As an appeal to sentiment the introduction of right reason is a very helpful thing; for it enables one to insinuate that the person who does not accept the demonstration is somehow a poor sort of person. The procedure is general, and we shall return to it hereafter (§§ 480 f.).

424. At a later period we come upon an elect company of jurists who formulated the theory of natural law and the law of nations, and who are greatly admired by people who are so fortunate as to understand them: Grotius, Selden, Pufendorf, Burlamaqui, Vattel, and so on.[1]

425. Grotius says that "natural law is made up of certain principles of right reason which teach us that an action is morally proper or improper according as it is in accord or disaccord with a rational and sociable Nature, and that, consequently, God, who is the creator of Nature, commands or prohibits such actions."[1]

424 [1] Lack of space prevents us from examining all their definitions here; but that is no great loss, for they are all more or less alike and all equally hazy.

425 [1] *De jure belli ac pacis,* I, 10, 1 (Pareto used Barbeyrac's French translation): *"Pour commencer par le Droit Naturel, il consiste dans certains principes de la Droite Raison, qui nous font connoître qu'une Action est moralement honnête ou déshonnête selon la convenance ou la disconvenance nécessaire qu'elle a avec une Nature Raisonnable et Sociable; et par conséquent que Dieu, qui est l'Auteur de la Nature, ordonne ou défend une telle action."* The Latin original reads: *"Ius naturale est dictatum rectae rationis indicans actui alicui ex ejus convenientia aut disconvenientia cum ipsa natura rationali inesse moralem turpitudinem aut necessitatem moralem, ac consequenter ab auctore naturae Deo talem actum aut vetari aut praecipi."* (See Campbell, p. 21.) Grotius goes on to observe, § 2, that "the actions in regard to which Nature supplies such principles are obligatory or illicit in themselves, so that they are conceived as necessarily ordained or forbidden by God"—and that is what distinguishes it from human law. Noticeable here, as usual, is a perception that there is in law a something that is not arbitrary; and that something is "necessarily" connected with God, Nature, Right Reason, and other similar entities. Notes by Barbeyrac to French translation: "Grotius wrote: 'morally necessary,' but the term I use, 'morally proper,' is clearer and the contrast is more exact. I write 'reasonable *and sociable* nature,' following the author's regular formula, as witness § 12, No. 1; II, § 12, No. 3; III, § 1, No. 3. The copyist, or the printer, would seem to have overleapt the two words without the author's noticing, as has happened in other passages."

Pufendorf comments that that is reasoning in a circle, because natural laws are defined as what is proper and then to learn what is proper we have to resort to natural laws.[2] But Burlamaqui washes Grotius clean of any such blemish: "I cannot see any circle there; for the question as to the source of the natural rectitude or turpitude of proscribed or forbidden actions Grotius does not answer in the manner represented. He would say that the rectitude or turpitude arises from the necessary harmony (*convenance*) or discord (*disconvenance*) of our actions with a rational and sociable nature."[3] That is the usual method of defining one unknown by another unknown. From natural laws we are remanded to "rectitude," from rectitude to harmony; to say nothing of a certain "rational" nature which is not clearly distinguishable from a nature that is not such.

426. All the same, let us do the best we can. We have been referred to a "harmony"; let us see if we can discover what on earth it may be. Burlamaqui, *Ibid.,* II, 7, 2, gives us a lead: "As for the *harmony* finally, it is something approximate to order itself. It is a relation of conformity among several things, the one of which is in itself essential to the conservation and perfection of the other, and does its share in maintaining it in a good and advantageous state." It would seem, then, that the "rectitude" in question is something that stands in the relation indicated to a "rational and sociable nature." But our unknowns, far from getting fewer, are increasing in number. In addition to discovering what "rational nature" is, we now have to learn the meaning that the author gives to the words "conservation," "perfection," "good and advantageous state."

427. All this twisting and turning amounts in the end to saying that "natural law" is a phrase that arouses in the mind of the author an atmosphere similar to the atmosphere aroused by the words "rational nature," "conservation," "perfection," "good and advantageous state"—all of which are essentially undefinable. Why, then,

425 [2] *De iure naturae et gentium,* I, 1, 10 [Wrong reference. Pufendorf regarded I, 2, 6, as his basic comment on Grotius: Frankfurt, pp. 27-29; Kennett, pp. 18-20; Barbeyrac, Vol. I, p. 30.—A. L.]

425 [3] *Principes du droit naturel,* Pt. II, Chap. 5, Sec. 6.

instead of going so far afield, does not the author say it that way and have done with it? [1]

428. For Pufendorf "natural law is that law which is so invariably in accord with the rational and sociable nature of man that unless its norms were observed an honest and peaceful society could not exist among men." [1] He would seem here to be depending on experience alone; and if he continued along that line, natural law would simply be a law that governs societies in such a way that they are able to survive. But unfortunately experience shows that many are the societies which subsist, and each with a different set of laws; so we cannot know which of the latter is the natural law except by determining what they have in common—and that takes us into another field.[2]

427 [1] Here induction leads us to consider a general phenomenon with which we shall deal at length in Chapter IX. For the present let us continue examining the relations of these theories to experimental facts.

428 [1] *De officio hominis et civis,* I, 2, 16 (Oxford, Vol. I, p. 18; Vol. II, p. 16): *"Illa est quae cum rationali ac sociali natura hominis ita congruit ut humano generi honesta et pacifica societas citra eandem constare nequeat."*

428 [2] Burlamaqui, *Eléments du droit naturel,* Pt. III, Chap. 13, Sec. 1: "As regards natural law, the proofs based on the consensus and practices of the nations or on the sentiments of philosophers are not adequate for establishing that this or that thing is part of natural law. The extent to which even the wisest and most enlightened nations have gone astray on the most important matters is only too well known." Pufendorf also rejects the evidence of universal consensus. Pufendorf-Barbeyrac, *Le droit de la nature et des gens,* II, 3, 7 (Vol. I, p. 179; *De iure,* Frankfurt, p. 179; Kennett, pp. 124-25): "Others take for the basis of natural law the consent of all mankind, or of all nations, or of most nations, or of the more civilized nations, to recognize certain things as proper or improper. But for one thing, that is only, as the phrase goes, an *a posteriori* proof [In other words, an experimental proof, and therefore repugnant to every good metaphysicist.] and fails altogether to explain why this or that thing is prescribed or prohibited by natural law. Then again it is not a very sure method and is fraught with countless difficulties; for if one appeals to mankind as a whole, two annoying embarrassments arise, as Hobbes well shows, *De cive,* II, § 1. In the first place, on that assumption it does not appear that any human being actually using his reason could ever sin against natural law; for the moment one individual belonging to the human race embraces an opinion differing from the general, the consensus of mankind is impaired. In the second place, it seems manifestly absurd to take as the basis of natural laws the consent of those who break them more often than they observe them." Pufendorf defines natural law, *De iure naturae et gentium,* I, 6, 18 (Frankfurt, p. 109, Barbeyrac, Vol. I, p. 113; Kennett, p. 76), as "a law standing in such a necessary relationship to the reasonable and sociable nature of man that without observance of it no honest

429. But Pufendorf does not understand the matter in that way, really. He dismisses experience without further delay, adding that the law in question can be discovered with the sole aid of natural reason, by mere contemplation of human nature in general. Know ye, therefore, that[1] "to discover entirely and convincingly the distinguishing trait of natural law . . . it is sufficient to examine attentively the nature and inclinations of man in general." And so, with this blessed Nature, we are thrown back once more into full metaphysics, to land at a place where the "fundamental principle of natural law" dwells, the law that[2] "each individual should do his utmost to further the welfare of human society in general." That does not help us very much, for we now have to quarrel as to the character of that welfare. One person will say, "The welfare of society lies in an aristocratic system"; another will retort, "The welfare of society lies in a democratic system." And how are we going to settle the dispute on the principles of natural law? Pufendorf adds that "natural law has God for its author"—and that, in truth, must be the case![3]

430. Burlamaqui departs but slightly from Pufendorf. He says:[1] "By natural law is meant a law that God lays down for all men and which they can discover and know by the unaided light of their reason, considering attentively their nature and their state." Here there is no trace of the animals that made up such a fascinating menagerie in the *Institutes* of Justinian.[2] But a new entity has come

and peaceful society could exist in the human race. Or if one wish, it is a law that has, so to say, a natural goodness [The usual vagueness. Metaphysicists simply cannot hit on a notion that is exact.], in other words, an inner capacity of its own for procuring the welfare of mankind. The law is called natural because it can be known through the natural lights of reason, and by the contemplation of human nature in the large."

429 [1] *De officio hominis et civis,* I, 3, 1 (Oxford, Vol. I, p. 18; Vol. II, p. 17).

429 [2] *Ibid.,* I, 3, 9 (Oxford, Vol. I, p. 21; Vol. II, p. 19).

429 [3] *Ibid.,* I, 3, 11 (Oxford, Vol. I, p. 22; Vol. II, p. 19): ". . . *esse autem Deum legis naturalis autorem.*"

430 [1] *Principes du droit naturel,* Pt. II, Chap. 1, Sec. 2.

430 [2] Cruel to the poor animals, Pufendorf absolutely will not let them have a natural law in common with man, *De iure naturae et gentium,* II, 3, 3 (Frankfurt, p. 172; Barbeyrac, Vol. I, p. 171; Kennett, p. 119): "There have been people, apparently more minded to display their brilliancy than to sustain their thesis in

on the scene—God; though we are not told whether He be the God of the Christians, the God of the Moslems, or some other God. God has made a natural law common to all men, who, however, do not have the same God! It all sounds like a puzzle.

431. In Burlamaqui's proposition there are two definitions and a thesis. Natural law is twice defined, first as given by God, second as known through reason. The thesis lies in the assertion that the two definitions are in accord. It is not very clear how people who have different Gods, and especially atheists who have no God at all, can all agree. As for the conclusions reached by "attentively" considering the nature and estate of mankind, those are merely things that the author finds in accord with his own sentiments; and of course if anyone fails to reach Burlamaqui's conclusions, he must accuse himself of not having considered the nature and estate of men with sufficient attention. But if this person should persevere in his stand and assert that despite his "attentive" consideration of the nature and estate of man he arrives at different conclusions, on what basis could one decide which of the conclusions ought to be accepted (§§ 16 f.)? In a "consideration" of "nature" one can find anything one chooses. The author of the *Problems* (attributed to Aristotle) discovers in nature the reason why man of all animate creatures should be the one to have, in proportion to size of body, the shortest distance between the eyes, and he asks: "Can it perhaps be because more than others he is according to nature?" [1]

The "experience" of believers in natural law is on a par with our

earnest, who have marshalled from all hands any evidence tending to establish such an alleged law common to human beings and animals. Scholars, however, have long since rejected all the arguments put forward on that score. I might mention briefly here such as are derived from Holy Writ." And he proceeds to argue at length that the penalties laid on animals in the Bible involve no presupposition of a law of animals.

431 [1] *Problemata,* X, 15 (Forster, p. 892a): Διότι μάλιστα κατὰ φύσιν ἔχει τῶν ἀλλων. The writer continues: "It is the nature of sensation that it takes place in front; since, in motion, it is necessary to see objects in advance. The greater the distance between the eyes, the more is the gaze cast sidewise. So, to conform with nature, the distance must be the shortest possible, since in that way one can the better walk straight ahead." O blessed Nature, what wondrous revelations dost thou not vouchsafe us!

modern "Christian experience." In neither case is there anything that resembles the experience of the natural sciences; and the term "experience" serves only to dissemble the fact that the person who uses it is merely expressing his own feeling and the feeling of people who happen to share his views (§ 602).

432. In the Preface to his treatise *De officio hominis et civis* Pufendorf epitomizes his ideas, saying that there are three distinct sciences:[1] "Natural Law common to all men; Civil Law, which is or may be different in different countries; and Moral Theology. . . . Natural Law prescribes this thing or that because Right Reason compels us to judge it necessary for the preservation of human society in general." Take it for granted that the reason which fails to prescribe as our author wishes is not right reason; but we cannot know that it is not until we have a clear and exact definition of what it is.

433. Such a definition Barbeyrac, adapting Pufendorf, tries to give:[1] "From that it becomes apparent how we must judge of the rightness of reason in our inquiries into the foundations of Natural Law; in other words, how we are to recognize that a maxim is in conformity with or contrary to Right Reason. For the maxims of Right Reason are *true* principles, principles, that is, which accord with the nature of things as we know that nature after careful examination, or which are accurately deduced from some first principle true in itself. Those, on the contrary, are maxims of corrupt reason [*pravae rationis*] which are founded on false principles, or which are faultily deduced from principles true in themselves."

434. Underneath all this pretentious verbiage it is not difficult to recognize a principle dear to metaphysicists, whereby experimental truths may be discovered through introspection into the "human mind" (§ 493). So right reason must necessarily be in accord with experience, or with Nature, as these gentlemen say.

435. Pufendorf continues, II, 3, 14: "If, then, what is represented

432 [1] Oxford, Vol. I, pp. [2]-[3]; Vol. II, pp. viii-ix.

433 [1] Pufendorf-Barbeyrac, *Le droit de la nature et des gens,* II, 3, 13 (Vol. I, p. 190; Frankfurt, p. 192; Kennett, pp. 133-34).

as a maxim of Natural Law is really founded on the nature of things, one may safely regard it as a true principle and consequently as a principle of Right Reason; for the nature of things reveals to us only that which really exists."[1] If he were following the experimental method he would invert his terms and say, "What really exists reveals the nature of things." But following the metaphysical method, he tries to learn what really exists not from the observation of facts, but from "principles in accord with the nature of things." Of this accord Right Reason remains judge. Hence we go round and round in a circle: to know right reason we are referred to the nature of things, and to know the nature of things we are referred back to right reason.

436. Reasoning in that convenient fashion, the author can convince us of anything he chooses; and so it is that, without much trouble (according to him), one comes upon the discovery that the basis of natural law is sociability (sociality).[1] Sociability always

435 [1] Barbeyrac notes in his French translation (*loc. cit.;* Kennett, *loc. cit.*): "This sentence did not appear in the first edition. Since it did not fit in very well with the context I have altered connexions slightly but without in any respect departing from the author's meaning." He then executes the usual manoeuvre for crippling his adversaries by barring them from the list of individuals competent to judge of the issues in question: "The assumption here always is that one's adversaries are not Pyrrhonians [sceptics] or persons disposed to attach little importance to the true or the false; otherwise it would be useless to try to enlighten them." From the experimental standpoint an argument that will allow objections only from people who accept it is no argument. From the sentimental standpoint an argument by accord of sentiment can be accepted only by people who already entertain the sentiment, at least partially. Barbeyrac continues: "There has always been the question as to whether the just were just by nature and not by fiat of some arbitrary will—*φύσει, οὐ θέσει*: in other words, as the result of essential relationships between our conduct and its objects or the nature of things." The dilemma exists only for metaphysicists. Experimental science offers a third solution: It holds that the word "just" merely expresses certain sentiments, and is therefore not a little vague, as are the sentiments themselves.

436 [1] Pufendorf, *De iure naturae et gentium,* II, 3, 15 (Frankfurt, p. 197; Barbeyrac, Vol. I, p. 194; Kennett, pp. 136-37): "We shall have no great difficulty in discovering the true foundation of natural law. . . . Every individual is prompted to cooperate to the full measure of his capacities with other individuals, in the formation and maintenance of an orderly society in conformity with the constitution and purposes of all humanity without exception. [That will be Kant's "universal law."] And since anyone requiring a certain purpose also requires the means essential for achieving it, it follows that anything necessarily contributing to universal

figures in these systems, either overtly or in disguise, because they are designed to induce people not to injure but rather to help one another; and they therefore need the support of the sentiments, so called, of socialibity (sociality).

437. Burlamaqui throws still other sentiments into the fray, rightly judging that the greater the array of the favourable sentiments he can muster, the better off he is. When he is addressing Christians, he wants to have their religion on his side. Egoists he tries to convince that altruism is a good policy for egoists (§§ 1479 f.). With the result that he gets three principles for his natural laws:[1] "Religion, self-love, and sociability, or goodwill to other men."

438. The inadequacy of the definitions of metaphysical entities that writers use in the study of natural law in many cases does not escape them; and each exerts himself—with little success, alas!—to find better ones.

439. Burlamaqui protests that he is trying to follow the experimental method and says:[1] "People often speak of *the useful, the just, the honest,* of *order,* of *propriety* (*convenance*), but most often these different notions are not defined with exactness. . . . This lack of precision cannot fail to leave a certain amount of confusion and embarrassment in a discussion. If we are trying to get light, we must distinguish carefully, and define sharply. [Excellent! We are now all ears for a few clear and exact definitions!] A useful action is one that tends of itself to the conservation and perfection of man." Note the ambiguity in the impersonal "man." Had Burlamaqui said "of a man," we could say that what tends to the conservation and perfection of a thief is to know how to pick a pocket dextrously. But that cannot be said of man in general. It has still to be shown that what is advantageous for man in general is also advantageous for man in particular, since it is always to a particular person that the argument is addressed. But the author does not bother with that detail!

sociability must be regarded as prescribed by natural law, and anything disturbing to such sociability as prohibited by natural law."

437 [1] *Principes du droit naturel,* Pt. II, Chap. 4, Sec. 18.

439 [1] *Ibid.,* Pt. II, Chap. 7, Sec. 2.

An action is said to be honest when it is considered as "conforming with the principles of right reason [How is right reason to be distinguished from the reason that is not right?], with the dignity of human nature [What is this new entity?], deserving therefore of the approbation of men [And supposing some approve and some disapprove?], and consequently winning for the man who performs it consideration, esteem, and honour." Among warrior races such distinctions go to those who have slain most enemies, among cannibals to those who have eaten most. Order is "the disposition of a number of things with reference to some specified end and proportioned to a desired effect."

And at last we come to propriety. "Propriety (*convenance*) approximates order itself. It is a relationship of conformity [What is this conformity?] among several things, each of which is in itself promotive of the preservation and perfection of the other [And what this perfection?], and does its share in maintaining it in a good and advantageous estate." Good for whom? Advantageous for whom? A poison that leaves no trace "is promotive of the preservation and perfection" of the man who wants to murder a neighbour, and maintains him in an estate that is "good and advantageous" for him; but it cannot be said to be "promotive of the preservation and perfection" of the victim, or that it maintains the victim in a "good and advantageous estate." There is no such thing as a general propriety, in the sense given the term by Burlamaqui. The standpoint from which the propriety is viewed has to be specified.

440. Burlamaqui, instead, talks of everything objectively, as though his entities had an independent existence of their own (§ 471). And how he uses his definitions! *Loc. cit.,* sec. 3: "So we must not confuse the just, the useful, the honest. . . . But those ideas, though distinct from one another, contain nothing incompatible the one with the other. They are three relations which can all be appropriate and can all be applied to one and the same action considered from different points of view. And if they be traced back to their origin, they will be found to derive all from a common source, or from one and the same principle, as three branches from the same

tree-trunk. That general principle is the *approbation of reason.*" Really now, was there any good excuse for taking such a roundabout route just to pay a call on Milady Reason, a lady already charged so many times with originating natural law?

441. Vattel gives right reason a rest; but it is of little relief to us, for in its stead another actor comes on the scene, a certain "happiness," which is even more of an unknown. Says Vattel:[1] "Natural law is the science of the laws of nature [Of a class therefore with chemistry, physics, astronomy, biology, and so on, which are certainly sciences of the laws of nature? No, because Vattel soon changes tack], of those laws which nature lays down for men, or to which they are subject for the very reason that they are men; a science, the first principle of which is that truth of sentiment [Here is a new one!], that incontestable axiom [And what if some blackguard did contest it?] that 'the great object of every being endowed with intelligence and sentiment is happiness.'" But what kind of happiness? The happiness of the "destroyer of cities" is certainly not the happiness of the citizens he slays. The happiness of the thief is not the happiness of his victim. The happiness mentioned here is a particular happiness, and we are not told how it is to be distinguished from the thing that commonly goes by that name. Such particular happiness is often called "true" happiness; but that adjective is of no great help in getting nearer to experimental realities. Nor are we greatly helped either by aspersions cast upon those who refuse to recognize it. "There is no man, whatever his ideas on the origin of things, and even though he have the misfortune of being an atheist, who ought not to recognize the laws of nature. Those laws are necessary to the common happiness of men. The man who would reject them or manifest contempt for them would by that fact declare himself an enemy of the human race and deserve being treated as such" (§ 593). To imprison or burn a man is not, unfortunately, a logico-experimental demonstration.

442. All these definitions and others of their kind present the following characteristics: 1. They use indeterminate words, which serve

441 [1] *Le droit des gens,* Vol. I, pp. 39-40.

to arouse certain sentiments, but which do not correspond to anything exact (§§ 380, 387, 490). 2. They define unknowns by unknowns. 3. They combine definitions with theses unproved. 4. Their purpose, in substance, is to arouse the hearer's sentiments as far as possible in order to lead him to a pre-established conviction.

443. Selden begins by noting that the writers who have dealt with natural law have derived it from four different sources: (1) from that which is common to all animate beings or, (2) to all nations, or most nations; (3) from natural reason accurately used; (4) finally, from the will of the Divine Majesty, author of nature, and therefore of natural reason.[1] He rejects the first three sources and accepts only the fourth, limiting natural reason, however, to the natural reason of the Hebrews and divine will to the authority of the Hebrew God.

444. The Talmud gives instructive details as to the manner in which the various nations were enabled to have knowledge of the Law given by the Hebrew God. The manner described is after all no less credible than that of Right Reason, while it has the advantage of being more effective, and Bertinoro quite properly observes that in view of it the nations could not excuse themselves by saying: "We had no way of learning the law." [1]

443 [1] Selden, *De iure naturali et gentium*, I, 4 (Strassburg, p. 43; Venice, p. 225): *"In designatione atque definitione Iuris Naturalis quae apud scriptores solet diversimode occurrere, alii ex Aliorum Animantium actibus ac usu Iura hominibus aliquot Naturalia petunt; alii Iuris naturalis Corpus e Moribus omnium seu plurimarum Gentium communibus; ex Naturali Ratione, seu recto eiusdem usu alii; et demum alii e Naturae ideoque Naturalis rationis Parentis, id est, sanctissimi Numinis Imperio atque Indicatione."*

444 [1] *Talmud of Babylon, Tract Sabbath*, IX (Pavly, pp. 27-28; Rodkinson, Vol. I, p. 163): "Each word issuing from the mouth of God on Sinai made itself heard in seventy different languages and filled the universe with an agreeable perfume. The voice of God was so powerful that at each word the Israelites retreated twelve leagues." *Talmud of Jerusalem, Tract Sotah* (The Suspected Adulteress), VII, 5 (Schwab, Vol. VII, pp. 305-06; Danby, pp. 300-01): "Then stones were brought and an altar erected. It was faced with mortar and the words of the Law were inscribed on it in seventy languages, as it is written [Deut. 27:8 [*i.e.*, 31:9]]." Commentary (Gemara): "Contrary to the Mishnah it has been taught that the said words were inscribed on stones at the place where they passed the night [Josh. 4:3], according to an opinion of Rabbi Juda. Rabbi Yossé says that they were written on the stones of the altar. According to people professing the first opinion,

445. If we keep strictly to forms, all these disquisitions on natural law look like a mass of nonsense. But if we disregard forms and consider what it is they hide, we discover inclinations and sentiments that exert a powerful influence in determining the constitution of society and therefore are worthy of closest study. Demonstrations given in such forms are not to be accepted because of their accord with certain sentiments, nor rejected because they are in patent disaccord with logic and experience: we should consider them simply as not existing (§ 463), turn our attention upon the matter which they conceal, and examine it directly for its intrinsic characteristics. So our induction once more leads to the discovery that we must separate doctrines, as we find them stated, into two parts, and that of the two parts one is far more important than the other. In the course of our study, therefore, we shall have to try to separate those two parts; and then not stop with the reflection that a certain argument is inconclusive, idiotic, absurd, but ask ourselves whether it may not be expressing sentiments beneficial to society, and expressing them in a manner calculated to persuade many people who would not be at all influenced by the soundest logico-experimental argument.[1]

446. The good sense of a practical man like Montaigne is antidote enough for all these wild declamations on natural law: but it does not go far enough to locate the error where it really lies or discover

holding that the Law was inscribed on the walls of an inn, it is conceivable that the nations of the world could have sent their scribes any day to copy the texts, since the Law was written in seventy languages. . . . But how accept the view (which is the view of the Mishnah) that the Law was inscribed on the stones of the altar? In that case must it not have been a question of some temporary structure, of which everything pertaining to worship must afterwards have been buried underground, before their departure? And how then could the pagans have profited by it? It was a miracle, of course! During the short space of time that the altar was standing, the Lord quickened the wits of the various nations, so that they could make rapid copies of the text of the Law written in seventy languages." Mishnah, *Sotah,* VII, 5 (*De uxore adulterii suspecta*) (Surenhuis, Vol. III, p. 262): (Bartenor [read Bertinoro]): ". . . in the script of seventy nations, that anyone desirous of knowing the Law could do so, and that the nations might have no excuse by saying, 'We had no way of knowing.' "

445 [1] For the moment it is sufficient to have seen that a path opens out before us here. The following of it will be a task for a later portion of this work.

the sentiments which such arguments conceal. Says he: "Certainly they are amusing, these people, when they try to lend a certain amount of authority to their laws by saying that some of them are fixed, perpetual, immutable, which they call natural laws and which are imprinted upon human beings by the requirements of their very nature." [1]

447. There are plenty of other theories neither better nor worse than these disquisitions on natural law, and they all arise in a desire to give a semblance of absoluteness and objectivity to what is relative and subjective. Here, for example, are the Physiocrats, who have certain ideas as to social organization, political constitution, freedom of trade, and the like. They might propound them directly, as others —to an extent at least—have done: but no, they prefer to derive them from some imaginary "natural and essential order of political societies"—the title, in fact, of a famous book by Le Mercier de La Rivière.[1] So back we go to battles of words. "The *absolutely just* may be defined as 'an order of duties and rights arising from a physical and consequently absolute necessity.' The absolutely unjust, therefore, is all that is contrary to that order. The term 'absolute' is not used here in contradistinction to 'relative' for only in the relative can the just and the unjust arise. But a thing which, strictly speaking, is only relatively just becomes nevertheless absolutely just because of its relation to the absolute necessity we are under of living in society." Then there is a certain "essential order" that is "the order of reciprocal duties and rights, the establishment of which is essentially necessary to the greatest possible increase of production, to the end that mankind may achieve the greatest possible amount of happiness and the greatest possible increase in numbers." This, it would seem, is all quite axiomatic, as is also the notion that the order in question is a branch of the physical order: "If any man were to object to recognizing the natural and essential order of society as a branch of the physical order, I should regard him as a

446 [1] *Essais,* II, 12

447 [1] *L'ordre naturel et essentiel des sociétés politiques,* pp. 11, 28, 38-39 (1910 ed., pp. 8, 21, 28-29).

person determined not to see, and studiously eschew any effort to cure him of his blindness" (§§ 379, 435[1]). Le Mercier de La Rivière has one notion that is in accord, substantially, with experience, the notion that "the social order is in no way arbitrary"; but the proof he gives of it is the worst imaginable.

448. As is usual with this sort of disquisition, the author believes that his ideas have to be accepted by everybody the moment they are stated (§§ 591 f.). "The simplicity and the obviousness of this social order are manifest to anyone willing to devote the slightest attention to it." But along comes the Abbé de Mably, who certainly gave the subject a great deal of attention, but was not in the least persuaded of this and other "obvious truths" alluded to in the first two parts of Le Mercier de La Rivière's work. He says:[1] "The author talks a great deal about obviousness, and I find nothing obvious about it. I have read and re-read his book, and far from finding my doubts diminishing in numbers, I have found them multiplying." At times Mably does not reason at all badly; and he is following principles of logico-experimental science when he observes, for instance, that a given order cannot be considered necessary to societies if we find actually existing societies that do without it. Le Mercier de La Rivière argues, p. 21, 1910 ed., p. 15, to show the necessity of private property in land. Mably comments: "If one were to stop at asking merely that every society should embrace a certain amount of real property, I would not feel embarrassed, for I readily see that it is indispensable that a society should have a domain by which its citizens may be assured of a living. But that one should regard as a matter of absolute necessity and justice a thing which civilized and prosperous societies have done without—that confounds my reason and upsets all my ideas." Ignoring, for a moment, public property in land and Madame Absolute Justice, a lady with whom we have no close acquaintance, the rest of the argument is sound. The author, moreover, mentions the case of Sparta, an example not so well chosen, for though Sparta had no private landownership of the

448 [1] *Doutes proposés aux philosophes économistes sur l'ordre naturel et essentiel des sociétés politiques*, 1768, pp. 4-9 (*Œuvres*, 1790, Vol. XI, pp. 3-7).

Roman type, the Spartans did know a sort of real property. But altogether to the point is the example of the Missions in Paraguay: "Even the Jesuits, sir, refute your arguments; and in Paraguay they are treating themselves to the privilege of defying the essential law of your natural order with impunity."

But the Abbé de Mably, like Le Mercier de La Rivière, has a preconception of his own to defend. He appeals to experience to suit his convenience in defending his pet idea of collective property, just as Le Mercier de La Rivière called on a "natural order" to help him defend private property in land. That explains Mably's failure to notice that the very same objection may be made to the first part of his argument that he raises in its second part. As a matter of fact nomadic peoples have no landed property, either collective or private. Mably might answer that the nomadic peoples are not to be counted among "civilized and prosperous societies"; but to take that line would militate against his own example of Paraguay for the very same reason. And if Le Mercier de La Rivière would only abandon his vagaries as to a "natural and essential order," he might adduce many a sound example to show that the most "civilized and prosperous" societies have been those very ones in which private property in land has existed. But to give the discussion such a turn would be to remove it from the field of sentiment and metaphysics, to which our authors often betake themselves, and transfer it to the field of logico-experimental science.

Quesnay quotes a number of opinions on natural law and finds an element of truth in all of them;[2] but "our philosophers have stopped at the paralogism, the incomplete argument, in their investigations into this important matter, which is the natural principle of all the rational duties of man." So he then sets out to complete their work. First he deals with justice: "If I am asked what justice is, I answer that 'it is a natural and sovereign rule recognized by the light of reason [If the "reason" of some individuals "recognizes" one rule, and the "reason" of other individuals another, how are we to pick the good one?], which clearly determines what belongs to one-

448 [2] *Le droit naturel,* pp. 42-43, 52-53.

self and what to someone else.' " After a good deal of rambling, he arrives at this conclusion: "Men living together in a society must therefore be subject to natural laws and positive laws. . . . Natural laws are either physical or moral. By physical laws is here meant 'the regulated course of every physical event of the natural order, which is obviously the order most advantageous to mankind.' By moral law is here meant 'the rule of every human action of the moral order consistent with the physical order, which is obviously the order most advantageous to mankind.' The sum of such laws makes up what is called 'natural law.' All men and all human powers must be subject to these sovereign laws instituted by the Supreme Being. [So Quesnay increases by one the very considerable number of individuals who have thought they knew the will of the Supreme Being in question and who, unhappily, are not in very close agreement.] They are immutable and irrefragable, and the best possible laws." To reason in such fashion is to reason in a circle; for if natural law is defined as that "which is obviously the most advantageous to mankind," it would be difficult to understand how "the sum of laws making up natural law" could contain anything but "the best possible laws." It is indeed surprising that these "immutable and irrefragable" laws should not have been discovered before Quesnay's time, and that they should not have been universally adopted once he had discovered them and revealed them to an eager world.[3]

448 [3] Daire, in his *Observations,* in *Physiocrates,* Vol. II, pp. 438-39, finds these theories of Quesnay and his commentator, Le Mercier de La Rivière, altogether admirable: "Instead of looking to the nature of man and his relations to the external world for the immutable laws that establish and maintain order within societies, our publicists and theologians have imagined that they were called upon to invent such laws; and the institutions at present prevailing in Europe bear witness to the success with which, in this connexion, they have replaced the views of the Creator with their own." But the Creator could not have foreseen any such substitution; otherwise He would have prevented it. Daire observes that Le Mercier de la Rivière goes counter to Rousseau's doctrines: "Instead of asking the legislator to create an order, Le Mercier de La Rivière urges him to conform to the order that is, and to seek a basis for it nowhere else than in the sentiment and reason that have been bestowed upon man that he may recognize the immutable laws on which his existence and his happiness here below depend." In this there is a timid effort to escape from the fog of metaphysics, but it is not a successful one. Never mind the appeal to the Creator and his

449. Interesting the analogy between such theories and that contemporary metaphysical dream known as the theory of solidarity. In the latter, as in one of the theories of natural law, the starting-point is—or rather, is alleged to be—experience. The theory of natural law recognizes a law common to human beings and animals. The theory of solidarity goes that one better and recognizes a law of interdependence among human beings, animals, plants, and minerals. If natural law was good, this law of solidarity is perfect.[1]

450. But these estimable metaphysicists have little patience with experience; so they are soon rid of it through one door or another. Natural law eventually allowed its animals to go to the dogs. The doctrine of solidarity does even better. It repudiates its own origin to the point of setting up a solidarity-fact in contradistinction to a solidarity-duty.[1]

451. How are we to find this latter? After all that we have been saying the canny reader cannot have a doubt. What in the world else are such things as "right reason," "nature," "the just," "the honest," good for? Just as they yielded the theory of natural law in a day gone by, so will they yield a theory of solidarity now, and as

views, which transports us to the domain of theology. "Immutable laws that establish and maintain order," and "the sentiment and reason *bestowed* on man that he may recognize" those laws, transport us far afield into the domain of final causes, or, in any event, remove us from the experimental field, where "immutable laws" designed for one purpose or another do not exist, but just plain facts and uniformities between them (§ 99).

449 [1] Bourgeois, *Essai d'une philosophie de la solidarité,* p. 3: "In the first place, what is objective solidarity, considered as a fact? Kant said: 'What makes up an organism is the reciprocity between its parts.' In that lies the germ of all biology. [This fanatic of "Science" might have quoted a biologist rather than a metaphysicist on a point of that kind.] . . . So the idea of life is identical with the idea of association. And the doctrine of evolution has shown the law by which this interdependence of parts contributes to the development, the progress, of each individual, each group of individuals."

450 [1] Bourgeois, *Ibid.,* p. 13: "So here we are very far removed from a solidarity-fact and very close to a solidarity-duty. Let us never confuse them; they are opposites. But it was necessary to establish the existence of the former in order to perceive the moral necessity of the latter." Milady Science has tripped rather hastily across the stage to vanish through the wings! Solidarity-fact has, however, found a champion in one Dr. Papillant, *Ibid.,* p. 25: "I would make a demand in the name of natural solidarity, to which, in my judgment, too little attention is being paid." *Cf.* Bentham's attitude towards morality.

many other similar theories as writers of some moderate talent are pleased to devise (§ 1557).[1]

452. In the theories that we have just been examining three elements are distinguishable: (1) an experimental element, which is rarely absent but is often more apparent than real; (2) a metaphysical trans-experimental element, which is often dissembled but is never absent; (3) a theological element—and one therefore beyond experience, which is present in certain theories and absent in others. These last two elements are usually chosen from among the doctrines that enjoy greatest prestige in the society in which the author of the theory is living. Theology was not enforced in ancient pagan society, and the theological element is therefore missing in many theories which arose in those days. It is seldom absent, however, in

451 [1] Bourgeois, *Op. cit.*, pp. 8, 62-65, 72-75, 242: "When we ask what conditions a human society must satisfy in order to maintain its balance, we are forced to recognize that only one word can state them: 'Justice must be!' " But a query suggests itself. The societies that have hitherto existed in history—have they had their balance or not? If they have, they must have had justice already; and in that case why should M. Léon Bourgeois be trying to get it now through solidarity? If they have not enjoyed such balance, what is a "balance" that has never yet been known of men? "I am well aware that another purpose has been assigned to society, which is nothing less than happiness assured to each of its members. . . . Happiness is not material, divisible, externally realizable. The ideal of society is justice for all." Exactly what such a justice would be, M. Léon Bourgeois seems not to know, or at least he chooses not to tell. The objection had been raised: "M. Léon Bourgeois has declared that the origin of the idea of justice is of no importance, the moment one agrees that justice is necessary. All the same, very important practical consequences follow from the conception one has of justice." The reply is: "M. Léon Bourgeois . . . has not seen fit in this exposition to go into the question of the origins of the concept of justice. [He was not asked to discuss origins but to define the thing he calls justice.] However one try to explain them, the idea of and the hunger for justice are present in the human heart. That is a fact, which need simply be determined as a fact and with which we can start, and all the better since if theoretically there may be disagreement as to the first principles from which it is derived, practically everybody is in substantial agreement as to the meaning, significance, and content of this notion of justice." And so we find creeping in our never-sufficiently-praised friend and old acquaintance, Universal Consensus (§§ 591 f.). And miracle indeed had it failed to materialize! And Mademoiselle Raison? Patience! She too will soon be coming to the rescue of M. Léon Bourgeois! In his *Solidarité*, p. 76, one reads: "If the primal notion of good and evil is a necessity [What does that mean?], if the sentiment of moral obligation constitutes a 'categorical imperative' within us, the intellectual activity whereby the human being strives to define good and evil and determine the

theories originating in Christian societies, in which theology has been enforced. But of late, poor Theology has been driven from her throne and Science has taken her place—not experimental science, observe, but a certain metaphysical entity on which the name of science has been foisted.

453. Burlamaqui called religion to his support (§§ 430 f.). If he had lived in our times he would have appealed to Science. M. Léon Bourgeois resorts to Science. Had he lived in Burlamaqui's time he would have resorted to religion. The reader must not imagine that such a thing embarrasses those estimable gentlemen in the slightest. They know what they are driving at, and they are not unaware that all roads lead to Rome! [1]

premise of the moral obligation belongs to the domain of reason. . . . Everything in man's environment has evolved in proportion as the moral idea, the supreme function of the reason, has evolved within him." May Mademoiselle Raison be blessed with a long and prosperous life, that metaphysicists of the future may find her the loyal helpmeet she has proved to be to their predecessors! And a little place has been kept for Dame Nature too! *Essai,* p. 10: "In the first place Nature has designs of her own [The wicked hussy!], designs which are not our designs. The special aim of man in society is justice [Even in slave-holding societies?], and justice has never been the aim of Nature. Nature is not unjust, she is a-just. There is nothing in common therefore between the purposes of Nature and the purposes of society." And yet, certain predecessors of M. Léon Bourgeois, to wit, the Stoics, assured us that the supreme principle of morality was to live according to Nature (§ 1605)! How are we to know whether Bourgeois is right, or the Stoics? Metaphysicists have so long been inquiring into the purposes of Nature that by this time they should have discovered what they are. But each of them is still going his own road, and we, poor wretches, do not know whom to bet on. And the principle of sociability (sociality), which was of service to Pufendorf in his time, does not fail M. Léon Bourgeois. Implicitly it is present in everything Bourgeois writes. It appears here and there explicitly: Xavier Léon, *Le fondement rational de la solidarité,* p. 242: "Reason does not know individuals as such. Reason is realized by individuals in the mass, by all humanity [What a lucky man to know what "to realize reason" means!]. Reason is essentially human reason. . . . This eminently social trait in reason is the foundation of solidarity. It is that trait which confers on solidarity a moral value that one would strive in vain to extract from the empirical determination of a biological or social fact, or from the implications of a more or less tacit contract." (The passage is continued in the next foot-note.)

453 [1] Bourgeois, *Solidarité,* p. 25: "The scientific method is today making its way into all orders of knowledge. The most refractory minds, grudgingly it may be, are one by one submitting to it." That was written for the benefit of the French anti-clericals. As we read on, p. 73, we see what the science of M. Léon Bourgeois is: "The idea of right and wrong is, in itself, an ultimate idea: it is a primal fact,

454. It is understandable that Christian philosophy should look to the will of God for the origin of natural law. It might well be satisfied with that; and we should then have a theory consisting of a purely theological element. But it prefers also to have the aid of the metaphysical element, and perhaps of an experimental element—further proof that the form of such theories depends not so much upon their subject-matter as upon the concepts that are most in repute in the society in which they circulate. Most men refuse to be shut up within mere theology, and to win their assent the support of metaphysics and experience has to be procured.

455. We are told that "natural law is implanted and written in the heart of man directly by God Himself and that its purpose is to guide man, who aspires to his goal as a free being capable of good and evil." [1] Granted that God has "implanted and written" natural law in the heart of man, how are we to discover it? If by revelation exclusively, we would have an exclusively theological theory. But metaphysics interposes and even, it would seem, experience.

456. St. Paul in his time said, Rom. 2: 14-15: "For when the Gentiles, which have not the law, do by nature the things contained in the law, these, having not the law, are a law unto themselves: which shew the work of the law written in their hearts." Experience, therefore, might lead to the discovery of it in the hearts of men. But we are soon warned that we are not to trust exclusively to conscience, since it has been corrupted, *Loc. cit.:* "The primordial faculties of man have been enfeebled by original sin; so it is natural that the implications [of natural law] should not ever be drawn in their full

an essential attribute of humanity." But metaphysicists had said that two thousand years ago and more. It was hardly necessary to drag in science to repeat it. His "science" and the old metaphysics are as alike as two peas. Why then give two different names to the same thing? For no other reason than to play on certain sentiments now widely prevalent that are favourable to Milady Science. Xavier Léon, *Le fondement rational de la solidarité,* p. 245: "Solidarity is therefore justified as an exigency of reason. It is in substance the principle of intelligibility in our conduct, the prerequisite to the realization of unity of reason in humanity." If that is not metaphysics, what is metaphysics?

455 [1] *Dictionnaire encyclopédique de la théologie catholique, s.v. "Droit"* (Wetzer, *s.v. Recht*). The author quotes St. Paul, Rom. 2:15: ". . . Which shew the work of the law written in their hearts."

perfection by any man, and that often they should be drawn incompletely and erroneously. And that is why human laws, which are not and ought not to be anything but consequences of natural law, are always imperfect, often defective, and sometimes false." This "law of nature" turns up again in ancient Irish law, with postscripts by the Church and learned Irish doctors.[1]

457. St. Thomas identified: (1) an eternal law, existing in the divine mind; (2) a natural law, existing in men and partaking of the eternal law, and by which men discern good and evil; (3) a law devised by men, whereby they make provision for what is contained in the natural law; and finally (4), a divine law whereby men are infallibly led to the supernatural goal—supreme beatitude.[1] Her Ladyship Right Reason is absent from all this, but we soon see her putting in an appearance; and the Saint tells us that "it is certain that all laws, in so far as they partake of right reason, are derived from the eternal law." [2]

456 [1] Maine, *Early History of Institutions,* pp. 24-25: "It [the *Senchus Mor,* one of the ancient Irish law-books] describes the legal rules embodied in its text as formed of the 'law of nature,' and of the 'law of the letter.' The 'law of the letter' is the Scriptural law, extended by so much of the Canon law as the primitive monastic church of Ireland can be supposed to have created or adopted. The reference in the misleading phrase 'law of nature' is not to the memorable combination of words familiar to the Roman lawyers, but to the text of St. Paul in the Epistle to the Romans. . . . The 'law of nature' is, therefore, the ancient pre-Christian ingredient in the system, and the *Senchus Mor* says of it: 'The judgments of true nature while the Holy Ghost had spoken through the mouths of the Brehons [ancient doctors of Irish law] and *just* [italics mine] poets of the men of Erin, from the first occupation of Ireland down to the reception of the faith, were all exhibited by Dubhthach to Patrick. What did not clash with the Word of God in the written law and the New Testament and the consciences of believers, was confirmed in the laws of the Brehons by Patrick and by the ecclesiastics and chieftains of Ireland; for the law of nature had been quite right except as to the faith, and its obligations, and the harmony of the Church and people. And this is the *Senchus Mor.*' "

457 [1] *Summa theologiae,* I[a] II[ae], *qu.* 91 (*Opera,* Vol. VII, pp. 153-58: *De legum diversitate*).

457 [2] *Ibid.,* I[a] II[ae], *qu.* 93, *art.* 3 (*Opera,* Vol. VII, p. 164): *"Quoniam, teste B. Augustino, in temporali lege nihil est iustum ac legitimum quod non sit ex lege aeterna profectum, certum est omnes leges, inquantum participant de ratione recta, intantum a lege aeterna derivari."* [In the form above this text is the *conclusio* of the argument *Utrum omnis lex a lege aeterna derivetur* in the 1570 edition. It figures only in substance in the Leo XIII edition.—A. L.]

458. The *Decretum* of Master Gratian defines natural law in practically the same terms as Roman law (§ 419), so taking us back to a pseudo-experimental notion. The concession, however, is of little avail, as it is still necessary to consider what is required by Scripture and Catholic tradition.[1]

459. When Nature is taken as the direct source of natural law, concepts of the latter may be regarded as *innate ideas* and so take on an absolute character—which in no way spares us the trouble of resorting to divine activity in order to account for the innate ideas.

460. Denying innate ideas, Locke is logically required to reject the theory of natural law deriving from them. But that is of little gain to science, for we at once go back to the domain of right reason. Says he:[1] "I would not here be mistaken, as if, because I deny an innate law, I thought there were none but positive laws. There is a great deal of difference between an innate law and a law of nature; between something imprinted on our minds in their very original, and something that we being ignorant of may attain to the knowledge of, by the use and due application of our natural faculties." This is still the metaphysical method, which presupposes the existence of abstract entities; and it is probable that even had Locke desired to part from it, he would have been restrained from doing so by the consideration that he could not, without serious mishap, change the destination at which his argument had to arrive at all costs—the existence of a natural law.

458 [1] *Decretum Gratiani, pars* I, *distinctio* 1, *canones* 6-7 (Friedberg, Vol. I, p. 2): "Law is either natural law, or civil law, or the law of nations. . . . Natural law is the common law of all peoples, since it arises by instinct of nature (*instinctu naturae*) and not by any legislative act (*constitutione*)." And *cf.* Isidore, *Etymologiae,* V, 4, 1. But as Lancelotto cautions in his *Institutiones iuris canonici, lib.* I, *tit. ii,* (p. 11): "The above must be taken as applying to such customs as are not in conflict with divine law and canonical legislation; for if anything be found at variance with Catholic faith, it is to be regarded not so much as custom as long-standing error (*vetustas erroris*)." Isidore, *Ibid.,* II, 10, 3: "If law is based on reason, everything will be law that is based on reason, provided it be consistent with religion, in harmony with [Church] teachings (*disciplinae conveniat*) and promotive of salvation through reason."

460 [1] *Essay Concerning Human Understanding,* Bk. I, Chap. II, § 13 (*Works,* Vol. I, p. 44).

461. Grotius posits the metaphysical element *a priori,* the experimental element *a posteriori.*[1] His French translator, Barbeyrac, perceives the weakness of the demonstration *a posteriori;* but instead of observing that natural law is beyond experience and therefore to be regarded as scientifically non-existent, he grasps at the metaphysical demonstration and judges it valid.[2]

462. Hobbes, *Libertas,* I, 2, denies that natural law is given by universal consensus, or even by the consensus of the wisest and most civilized nations, sensibly asking who is to judge of the wisdom of a nation (§ 592). There can, he thinks, *Ibid.,* II, 2, be no other law of nature except reason, nor any precepts of reason save such as point the way to peace, if peace be attainable, or in default of that, to the means of defence by war. As usual religion and morality are eventually called in (*Ibid.,* IV, 1). The laws that are said to be of nature because prescribed by natural reason are moral laws, since they relate to conduct, and divine laws, since God is their author. They cannot therefore run counter to the divine word as revealed

461 [1] *De iure belli ac pacis,* I, 1, 12 (pp. 5-6—translation from Barbeyrac's French translation): "There are two ways of proving that a thing is part of natural law, the one *a priori* . . . [by reasons derived from the intrinsic nature of the thing]; the other *a posteriori* [by reasons derived from something external]. The first, the subtler [and more abstract], lies in showing the necessary accord or disaccord of the thing with a rational and sociable nature such as that of man. [So there are other such natures? What are they?] Following the other more vulgar line [Science is vulgar, metaphysics sublime.], it is inferred, if not with certainty at least with great probability, that a thing belongs to natural law because it is regarded as so belonging among all nations, or at least among the more civilized (*moratiores*) nations; for a universal effect presupposing a universal cause, an opinion so general can hardly have any other source than what is called common sense." [Barbeyrac's rendering is very free. His additions are printed in brackets. The Latin of Grotius begins: *"Esse autem aliquid juris naturalis probari solet tum ab eo quod prius est, tum ab eo quod posterius, quarum probandi rationum illa subtilior est, haec popularior."* And see Campbell, p. 24.—A. L.]

461 [2] Barbeyrac, note to his word "certainty," § 461[1]: "This manner of proving natural law is not very generally used, because only the most general principles of natural law are accepted at all widely among the nations; and of some of the most self-evident principles the contraries have long been regarded as matters of indifference in the most civilized countries, as witness the horrible custom of exposing infants."

in Scripture. All of which is proved with an impressive array of quotations.[1]

463. Epicurus, in his time, had sought the definition of natural justice in the pact, or contract.[1] Hobbes makes the contract one of the cardinal principles in his system, as do Rousseau with his famous social contract and the *solidaristes* of our day—all of them drawing different conclusions from the same premise. That is not surprising, since the principle is lacking in any exact meaning and the arguments based upon it derive their force not from logic and experience but from accords of sentiments. All such theories are infected—and therefore sterilized—with the same lack of exactness. From the logico-experimental standpoint they are neither true nor false: they are simply meaningless (§ 445).

464. So far we have been speaking of *a* religion, *a* law, *a* morality; but, as we cautioned above (§ 373), not even such unity can be assumed. In point of fact not only are there various religions, various moralities, various laws; but even if one may say that there are types of such entities, we have to pay due attention to the deviations from them which are met with in the concrete. Let us assume for a moment—though the assumption is in general contrary to fact—that, in a restricted group of people at least, a certain theoretical type prevails from which actual beliefs and actual conduct may be regarded as deviations. In a group having a civil code, for instance, it may be assumed—though the premise would not be altogether true to fact—that court decisions, as dictated by the jurisprudence which has developed side by side with the code (sometimes in opposition

462 [1] See also *Leviathan,* XV. Hobbes draws a distinction between natural *right* which is every individual's right to defend himself, and natural *law,* which is the norm in deference to which the individual refrains from doing what may be harmful to himself. *Leviathan,* XIV (Latin version): *"Jus et lex differunt ut libertas et obligatio";* English version: "Law and Right differ as much as Obligation and Liberty."

463 [1] Diogenes Laërtius, *Epicurus,* X, 150 (Hicks, Vol. II, pp. 673-75): "Natural justice is a symbol or expression of expediency, to prevent one man from harming or being harmed by another. Since animals are incapable of making covenants with one another to the end that they may neither inflict nor suffer harm, they are without either justice or injustice. And so for peoples which have been either unable or unwilling to form mutual covenants to the same end."

to it), or as formulated through error or ignorance on the part of magistrates, or for other reasons, are mere deviations from the norms of the code.

465. Suppose, for a hypothesis, it be a Catholic group. Three types of deviation will be observable:

1. The believer is perfectly sincere, but sins because the flesh is weak; he repents and detests his sins. In that we get a complete separation of theory and practice. It is the situation represented in the well-known lines of Ovid, *Metamorphoses,* VII, vv. 20-21:

> *. . . video meliora proboque—*
> *deteriora sequor.*

Practice does not in the least presume to become theory. All confessors know that in this connexion there are very considerable differences between individuals. Some fall frequently into the same sin, others relapse more rarely. It is evident that two collectivities having precisely the same theoretical faith may differ practically, according as one of them has more individuals of the first kind than of the second kind.

2. The believer is of lukewarm faith. He more or less disregards the precepts of his religion, and feels little or no remorse. Here we already get the germ of a theoretical divergence. Certain believers are merely indifferent; in their case the theoretical deviation is very slight. Others think they can atone for their religious shortcomings in some way. Still others do not even consider them shortcomings—they argue, split hairs, resort to casuistry. So theoretical deviations arise, and they grow like parasitic plants on the orthodox faith. In that way practical deviations go hand in hand with theoretical deviations, though these are not carried to the point of schism.

3. Theoretical differences become accentuated. Schism, heresy, partial or complete denial of the type-theory, ensue. On reaching that point, the deviation ceases to be a deviation, and we get an actually new type of theory.

As usual, transitions from one sort of deviation to another take place by imperceptible degrees.

466. To neglect these deviations and consider the type-theories only is the source of serious errors in sociology. Nothing can be more mistaken than to evaluate the influence of a given religion by its theology. We should be going very far wide of the truth were we, for example, to reason: "The Christian religion enjoins forgiveness of offences; hence the people of the Middle Ages, who were very good Christians indeed, always turned the other cheek." It would be erroneous to the same degree to appraise the social value of a morality by the theoretical statement of it.

A lesser error, but still quite a serious one, is to assume that court decisions in a given country are made in accord with its written laws.[1] The constitutions of the Byzantine emperors were often a dead letter. In our day, both in Italy and in France the written laws of the civil code may supply at least an approximate picture of practical legislation; but the penal code and its written laws do not in the least correspond with practical decisions, and the divergence is frequently enormous. We need say nothing of constitutional law. There is no relation whatever between theory and practice, except in the minds of a few silly theorists.[2]

466 [1] *Liberté,* July 25, 1912: *"Moulins.* The Court of Criminal Sessions at Allier has dealt with the case of Louis Auclair, 18, travelling salesman of Moulins, indicted for the murder of his father. Since the death of his mother at Cosne-sur-l'Œil last year, young Auclair had been on bad terms with his father. The latter had sold his property for some 20,000 francs and purchased at Montluçon, ave. Jules Ferry, a drinking-place that he began operating with his son. Shortly he took to drinking heavily, and young Auclair became uneasy as to his share in his father's property. Violent quarrels took place between father and son. One day the young man stole 1,000 francs from the barman, and left home, going to live at Moulins. On April 6 last he went back to Montluçon, and a new quarrel with his father resulted. About midnight, on the evening of the seventh, he broke into his father's establishment. The barman, hearing a noise, hurried down to the bar, and found the young man working at the till. Louis Auclair now pleads that he had gone there just to dare his father, not for purposes of robbery. In any case, there was a scuffle and the young man shot his father through the stomach, killing him. The jury handed in such a mild verdict that the Court sentenced the man responsible for such an abominable crime to one year in prison." If such a news item came not from France but from some little-known country, one might conclude that the written laws of that country dealt leniently with parricide—and that might be a mistaken inference.

466 [2] Here is an example chosen at random. It is typical of many other cases not only in France, but in Italy and other countries. *Liberté,* Mar. 23, 1912 (article

A practical fact is the result of many other facts, some of which give rise to theories and may therefore be learned through them. Take, for example, a penal decision following the verdict of a jury. Distinguishable among the factors entering into such a sentence are

by G. Berthoulat): *"Sabotage of Justice:* In spite of the conspiracy of silence, public attention is fixed on political interference in the Rochette case. Quite aside from the facts that have already come to light, ordinary horse-sense is enough: how could a man like Rochette, with such a retinue of pontiffs of the Bloc in his debt, whether public attorneys or otherwise, have failed to provide himself with a parliamentary body-guard? One need not hesitate on the point: Rochette *did* demand such protection! . . . That is why, in deference to an order from higher up, the Attorney General was compelled to move for the scandalous adjournment of the Rochette case, a motion in which M. Bidault de L'Isle docilely acquiesced and which M. Fabre himself, in his report, calls 'the one humiliation of my career.' Along with this case of sabotage of the courts, the Abbot of Launay, speaking before the Senate yesterday, gave the proofs of another no less serious in that astonishing case of the Chartreuse which, even more than the Duez episode, is the jewel of the liquidations in which the famous 'billion' went up in smoke. The Chartreuse was worth fifty millions. Why was it knocked down at five hundred thousand? Because it had depreciated! . . . But there again there have been political influences: and they were so effectively employed that the liquidator suddenly became the guardian of the individual named in his complaint. And the Court at Grenoble, though the case had been regularly brought before it, ruled in 1906, 1908, and 1909 that the papers in the case were to be held 'non-existent.' But they existed all the same, and so certainly that the Senate was asked to take official cognizance of them yesterday. However, politics having decided to 'get out the life-boats' for the plunderers of the Chartreuse, the Court and full bench of Grenoble did not shrink from that extraordinary miscarriage of justice. To fill out the trio of sensational acts of sabotage, what about this one: the pardon of the incendiaries of Ay obtained on February 11 by M. Bourgeois at the instance of his 'control,' M. Vallé? Those rascals had been sentenced to relatively insignificant terms in the reformatory, for had they not been clients of M. Vallé they would have gone to the penitentiary. They had been captured in the act of chopping holes in roofs, pouring gasoline inside and setting fire to the buildings. The town of Ay will have to foot bills that run into the millions on the single account of the arson and depredations of those individuals."

Then come the verdicts of the "kind-hearted juries" and other court decisions equally fantastic. A woman kills her husband and her aunt without serious provocation. Here is an account of her trial. *Liberté,* May 12, 1912: "Mme. P—— appeared before Criminal Sessions this morning gowned in deep mourning. She did not cease sobbing once during the whole session, her hysterics causing a suspension of her examination several times. Presiding Justice: 'Why did you kill your husband?' *A.* 'I was carried away by a power beyond me. If, at that moment, anyone had come and stopped me and said, "What are you doing, crazy?" I would have come to myself—nothing would have happened.' President: 'You were so little out of your head that when you reached the Gare d'Austerlitz, you went to the

the following: 1. Written law—the part it plays in criminal cases is often insignificant. 2. Political influences—in certain cases very important. 3. Humanitarian inclinations in judges and jurymen—these are knowable from humanitarian theory and literary sources.

toilet and reloaded your revolver.' *A.* 'I would have reloaded ten revolvers at that moment. I was out of my head. I was so little aware of what had happened that I thought I was going to surprise my husband and my aunt at Savigny. I did not remember what I had just done in the rue Sedaine.' President: 'After your second crime you returned to Paris, took your daughter in your arms and said: "Forgive me, I am a murderer!" ' At this allusion the defendant bursts into hysterical sobs. Recovering a little she cries time after time: 'My child, my child, forgive me, please, please, forgive me!' Witnesses are called. The defence asks permission to call the little Paquerette, nine years old, the defendant's daughter. The prosecution and the presiding justice object, describing such an examination as an 'impropriety.' The defence insists. The defendant has hysterics again, requiring four policemen to hold her. She screams: 'My darling! My little girl! Forgive your mother!' The girl testifies in a barely audible childish voice that her mama told her always to remember her father in her prayers at night, and that her mama had never said anything unkind of her father. The moving scene deeply affects the spectators. After a recess, State's Attorney Wattinne closes with a severe arraignment of the defendant. The jury brings in a verdict of not guilty and the Court releases Mme. P——."

This is merely typical of a situation that is general. Says M. Loubat, Attorney-General at Lyons in a letter to the *Temps,* August, 1912: "Juries should be made up with a view to social defence and not to the occasional and fairly rare political cases that may come before Criminal Sessions. The results of the present system speak for themselves. Our highest criminal jurisdiction, which ought to approximate something like absolute justice in view of the tremendous and at times irreparable punishments that it has within its powers, is the least reliable, the most capricious, the most unpredictable imaginable. Certain verdicts are acts of downright aberration: parricide is condoned by a jury; in one same session defendants will be condemned to death, others equally guilty will be acquitted. If a court of judges indulged in such insanities there would be a public revolt. Such scandals would be impossible if the jury contained more men who were less credulous and less responsive to emotional stresses in the court-room."

Interested in a practical reform, the Attorney-General was here confining his attack to the point where the evil seemed greatest. But looking at the facts theoretically, decisions by judges are on the whole no better than jury verdicts. The services rendered the French Ministry by the Court of Appeals in the Dreyfus case are a matter of common knowledge. A very competent individual writes to the *Gazette de Lausanne* from Paris, Sept. 4, 1912: "You may be surprised that [for the Court of the Seine] we have not more than three or four Assistant Presiding Justices out of the dozen that are at all capable. For my part I am surprised that there are that many. They are not chosen for ability, but in view of their political affiliations. If they are competent jurists, that is just a matter of chance; and if they are independent, it is by oversight. On that bench we have at present a some-

4. Emotional, socialistic, social, political, and other inclinations on the part of jurymen—all knowable from theories and literary sources. 5. The general notion common to all despotisms, whether royal, oligarchical, or democratic, that the law does not bind the "sovereign," and that the "sovereign" may substitute personal whims for enacted law. This notion, too, is knowable through theories. In our day it is the fashion to say that "what we need is a 'living' law," a "flexible" law, a law that "adapts itself to the public conscience." Those are all euphemisms for the caprice of the individuals in power. 6. Numberless other inclinations, which are not perhaps generally operative, but which may chance to be preponderant in the minds of the twelve individuals—usually of no great intelligence, no serious education, no very high moral sense—who are called upon to serve on juries. 7. Private interests of the citizens in question. 8. The temporary impression made upon them by some striking fact—so after a series of startling crimes juries are inclined to be severe for a time.

In a word, it may be said that court decisions depend largely upon the interests and sentiments operative in a society at a given moment; and also upon individual whims and chance events; and but slightly, and sometimes not at all, upon codes or written law.[3] All

time Radical Senator who was beaten for re-election. He was appointed to the bench because he was a Radical and because he was regarded as a victim of the 'Reaction.' Now it happens that he is a first-class jurist, and so much the better. But had he not known how to serve a summons he would have been appointed with no more hesitation." That is France. In Italy things are worse, and by far.

466 [3] It would take a volume to quote some very small fraction of the facts adducible to this point. A writer in *Liberté,* Jan. 11, 1913 (L. Latapie), declares that the French magistrate today stands "helpless, spineless, in the face of an avalanche of crime and law-breaking. He defends society by waving a perfumed handkerchief at the dirk and brass knuckles of the bandit. Yesterday, in the Goutte-d'Or section, a mob all but lynched a burglar who was run down after being surprised on a 'job.' His record showed twenty-three convictions for housebreaking! Twenty-three times the police had discovered and arrested that particular rogue; and twenty-three times the courts had turned him loose with insignificant penalties! Nevertheless there is a law covering cases of incorrigible criminals. The magistrates do not enforce it, doubtless in fear of weakening their support among the 'advanced' parties. If Paris were suddenly purged of the fifty thousand professional criminals who could be in jail as well as not but who are left free to disturb the public peace, the Army of the Revolution would lose its

such factors, provided they be general and strongly influential, give rise to theories; and that is why we are studying now one theory, now another, not so much to become familiar with them in themselves as to attain through them a picture of the tendencies in which they originate.

467. In § 12 we noted the necessity of distinguishing between the subject-matter of a theory and the nexus by which the matter was drawn together to constitute the theory. In connexion with any given theory, therefore, two general and two particular problems arise. *In general:* 1. What are the elements utilized by theories? 2. What is the nexus that combines them? *In particular:* 1. What are the elements utilized by a *particular* theory (§ 470)? 2. What is the nexus that combines them (§ 519)? Our solution of those problems in § 13 yielded, in fact, a classification of types of theories. Now we must go deeper into that matter, which at the time we barely signboarded for future investigation.

most reliable troops. Our judges are getting along on the best of terms with the Revolution. Outrages against persons and property find an indefatigable spirit of forgiveness in the courts so long as the culprits hide behind some political pretext. Thieves and gunmen are so well aware of that that they never fail any longer to affiliate with the Anarchist party before setting out on a 'job.' If they shoot down a bank messenger and take his bag it is 'to vindicate democracy.' And if they take a shot at a policeman it is 'to improve social conditions.' The judge blanches white at mention of such dreadful social issues, and he draws his conscience down into his red robe the way a snail draws its head into its shell. Who knows? The courts may be largely responsible for the wave of crime that is today sweeping France. They are failing to inspire respect and fear for the law anywhere. They have so accustomed the professional agitator to getting off scot-free that he is considering himself intolerably persecuted if any gesture is made towards applying the laws to him. The governmental press, which is for ever flirting with the revolutionary parties, contributes not a little towards increasing uneasiness and hesitation among the judges. Their defence is well known: 'After all,' say they, 'why demand courage of us only? We follow the lead of the Government. Let the Government display a little energy against revolutionary law-breaking. Let it dissolve its alliance with institutions that are avowedly making war on the country and on organized society. Then we'll see about restoring the majesty of the law.' "

This last thrust is tucked in for polemical purposes. In reality, courts, Government, and public are moved by the same interests and sentiments. Outraged by some crime the public will strike down a law-breaker and then turn to feed anew on the inanities of humanitarians of every breed. Courts and governors follow the course the public approves.

In December, 1912, a Mme. Bloch came up for trial before Criminal Sessions in

468. Suppose we glance at an analogous case. Similar inquiries arise with reference to language. Grammar answers the general questions. Morphology yields the elements of language—substantives, adjectives, verbs, and so on. Syntax shows how they are combined. The grammatical and the logical analysis of a given passage answer the particular questions arising in it. Grammatical analysis yields the elements (substantives, verbs, and the like); logical analysis shows how they are combined and the significance they acquire through the combination. Carrying the analogy further, we might say that rhetoric deals with the passage more especially under its subjective aspect (§ 13).

469. The analogy extends also to the relations between theory and practice. Theory never gives a perfect picture of practice. Language is a living organism even today in our Western countries, where there is a continuous effort to crystallize it within specified forms, through which it is always breaking, much as the roots of trees split the ledges in the crevices of which they grow. In remote ages lan-

Paris for killing her husband's paramour, a certain Mrs. Bridgeman. The latter, as is usual with emancipated women on the American side of the Atlantic, was amusing herself with men while her husband devoted all his energies to money-making. Mme. Bloch was acquitted, and so far, nothing extraordinary—acquittals in such circumstances occur by tens and hundreds. What was not so commonplace was to hear a public ministry, which was supposed to be conducting a prosecution of crime, inciting to homicide. The State's Attorney delivered himself of the following: "The crime of this defendant was inexcusable. She had a legitimate victim in her own house—her husband. Had she smitten him, we could only nod in approval." The correspondent of the *Journal de Genève* usually has good things to say of the worst humanitarians. Of this detail, however, he wrote, Dec. 28, 1912: "The remark has caused an uproar, all the press protesting. But it would take more than that to keep the courts from discrediting themselves. The people at the Palais are playing to the galleries in a perfectly shocking manner. They seem to be less independent than ever as regards the higher powers, and more accessible than ever to the temptations of a cheap publicity. A great effort would be required to restore justice to the serenity, earnestness, and independence that are essential prerequisites to its effective functioning and prestige. The Rochette affair has not contributed to the good name of the French courts. It will be remembered that that high-flying captain of big finance disappeared at the very moment when he was to surrender to the authorities."

But all that results from the sentiments prevailing in the public at large and from the political system resulting from them. The causes are general and cannot be laid at the door of this or that individual.

guage developed freely like trees in a virgin forest—even in times not very long past spelling was still arbitrary in part. There is no reason for believing that the situation is, or has been, different with other similar products of human activity—with law, morality, religion. Indeed, facts in huge numbers constrain us to hold that they have developed much as language developed. In remote ages they were blended in a single mass, like the words in ancient Greek inscriptions, which were written without spaces between them, such contact modifying the last letter of one word and the first letter of a following word. The analytical process of separating one word from another, so simple in itself, was never carried out for Sanskrit, and was not effected for Greek till fairly recent times, traces of the original unions surviving even in classical literature.[1] So the analytical process of separating law, morality, religion, from each other, though evidently far advanced in modern civilized countries, has by no means been completed, and it has still to be carried out among the more backward peoples. Greek inscriptions, as well as the history of Graeco-Roman origins, present language, law, morality, religion, as a sort of protoplasm from which, by a process of scission, parts are sent off to develop as distinct, and finally as separate, en-

469 [1] Reinach, *Traité d'épigraphie grecque,* pp. 237-38, 245: "Spelling, especially in private documents beyond the control of the People's secretaries and the Senate, is even more individual than the script. It reflects not only the general habits of the period, but the caprices or manias of each stone-cutter. . . . The word *orthography* awakens in us moderns an idea of rules that was long stranger to the ancients. For us orthography is a fixed manner of writing words, oftentimes regardless of the way they are pronounced. For the ancients down to the Alexandrine era, as for the French down to the sixteenth century, no orthography, properly speaking, existed, and words were written much as they were pronounced. Writing was a living organism with them. It is a matter of schooling with us. . . . Countless examples of the variable spelling of the ancients could be quoted from inscriptions. There is an Athenian decree in which the forms ἐς and εἰς, ἀεί and αἰεί, appear just a few lines apart. . . . Curtius has shown from inscriptions that the normal state of the more ancient Greek as regarded final consonants was one of absolute mobility—the same situation that prevailed down to the end as regarded the consonants of prepositions in elision (ἀφ' οὗ). Later on a struggle for survival developed between the different forms, and the spelling that prevails in the classical language was the victor in that competition."

tities.[2] Studying the facts of the past with the ideas of our own day, we give body to abstractions created by ourselves, imagine that we find them in the past, and then when we come upon facts at variance with our theories, we call them deviations. So in our fancy we create a natural law from which positive laws would be deviations, and conjugations of regular verbs, from which the conjugations of irregular verbs would be deviations. The historical study of law and the historical grammar of the national languages have shattered that beautiful and well-ordered edifice—yet not to such an extent that it cannot still offer cosy refuge to our metaphysical sociologists. It is impossible to study history experimentally and not be impressed by the contingent character of law and morality. For a long time the grammar and vocabulary of Cicero and Caesar were *the* Latin grammar and *the* Latin vocabulary. Other writers showed deviations—if one did not go so far as to call them errors. Italian was the language of the "authorities" of the Crusca, and the person who spoke otherwise fell into error. At last scholarship has come to realize that there is not *a* Latin grammar, *a* Latin vocabulary, but many such. If Plautus and Tacitus write a Latin different from Cicero, it is somewhat ridiculous on our part to presume to correct them as if they were so many schoolboys who have not done their exercises with sufficient care. Even in our parts of the world, where law is crammed

469 [2] We have another analogy in the fact that scientific philology is a modern science unknown for centuries upon centuries even to men of great talent, and that it came into being and prospered through use of the experimental method. Greek grammar, for example, is much better known to modern scholars than to the scholars of ancient Greece. It seems impossible that Aristotle, or whoever it was that wrote the *Poetica,* could have written (20, 8, Fyfe, p. 77): "Since we do not ordinarily give a meaning to each part of a compound noun, so in Θεόδωρος, *δῶρον* has no meaning." The "critical" edition, obtained by the comparative, the experimental, method, is a modern thing—the humanists had no interest in it. The fanciful conjecturings of hypercriticism of texts must not be mistaken for scientific philology. The conjecture, after all, is nothing new. The alterations and suppressions to which not a few modern philologists presume to subject ancient Greek and Latin texts are in all respects kindred to the mutilations to which the Homeric poems fell victim at the hands of the Alexandrians. The justifications put forward by the moderns are comparable in ingeniousness, and oftentimes in absurdity, to the ancient.

into legislation and language into grammatical rules, evolution has ceased neither for the one nor for the other, and unity is an abstraction of which no trace is to be found in the concrete.

470. *The elements in theories.* Carefully observing the matter of which theories are constructed, we see that it is of two distinct kinds. Theories utilize certain things that fall within objective experience and are susceptible of objective observation (§ 13), or which may be logically inferred from observation and experience; and then again certain other things that overstep objective experience and observation—among them such as result from introspection or subjective experience (§§ 94-95). Things of the first kind we elect to call *experimental entities;* things of the second kind, *non-experimental entities* (§ 119).[1]

471. Certain entities seem to be experimental but are not, entities such as "heat," "cold," "the dry," "the moist," "depth," "height," and other similar conceptions of which ancient writers on the natural sciences made lavish use. To them may be added the "atoms" of Epicurus, "fire," and other such things. The poem of Lucretius may seem experimental as a whole; but it is not, for the entities with which it deals lie outside the experimental field.[1]

470 [1] As explained in § 6, we use the term "experimental" to designate not merely experience but objective experiment and observation.

471 [1] Davis, *The Chinese,* Vol. II, pp. 263-64 (1836, pp. 284-85): "The Chinese physiologists expressly call man a *Seaoutien-ty,* a 'little universe,' or 'microcosm,' and they extend to this the same doctrine of the *Yin* and *Yang,* or of the dual principle . . . maintaining the order and harmony of the natural world. They suppose that on a due proportion between these, or between *strength* and *weakness, heat* and *cold, dry* and *moist,* &c., consists the health of the human body; and that different degrees of excess or defect produce disease, and ultimately death. There is a great pretension to harmony and consistency throughout the whole system of physics, which perhaps might be called *beautiful,* were it only *true,* and based upon something better than empty speculation." Those interesting people are so well versed in science that "they do not even know the distinction between arteries and veins, and certainly not a syllable of the function of the lungs." They call the heart the "husband" and the lungs the "wife." "Without the practice of dissection, it would be singular indeed if they *did* know much." Of just that character were disquisitions on natural science in Western countries not so long ago, and such even today are many disquisitions on social "science."

Condillac well says:[2] "When philosophers use the words 'being,' 'substance,' 'essence,' 'genus,' 'species,' we must not imagine that they are designating by them certain aggregates of simple ideas derived from sensation and reflection. They mean to go farther than that and see specific realities in each of them. Indeed, if we go into greater detail and review the names of the substances 'body,' 'animal,' 'man,' 'metal,' 'gold,' 'silver,' and so on, we see that they all reveal to the eyes of our philosophers entities that are hidden from the rest of mankind.

"A proof that they regard such words as signs of some reality or other is the fact that when a substance has undergone some alteration they never fail to ask whether it still belongs to the same species to which it was referable before the change, a question that would become superfluous if they put concepts of substances and concepts of their species in different collections of simple ideas. When they ask if 'ice' and 'snow' are 'water'; if a 'foetal monstrosity' is a 'human being'; if 'God,' 'spirits,' 'bodies,' and even 'void' are 'substances' [All questions that logico-experimental science regards as meaningless, inconclusive, fatuous], it is evident that the question is not whether these things are in accord with the simple ideas gathered under the terms, 'water,' 'man,' 'substance' [That is a lapse into metaphysics. Really such problems are solved only by accords of sentiments.]—such a question would answer itself—but whether such things contain certain 'essences,' certain realities, which the words 'water,' 'man,' 'substance,' are supposed to designate."

Sometimes it is explicitly recognized that such entities are non-experimental—that fact, indeed, is taken as investing them with a higher majesty. At other times there is an effort to pass them off as experimental. Then again, there is a wavering between one conception and the other, and oftentimes no very clear idea at all regarding them—the case especially with politicians and other men of affairs who use such entities to express their thoughts. All that does not affect the manner in which they have to be regarded from the

471 [2] *Essai sur l'origine des connaissances humaines,* sec. V, § 7.

logico-experimental standpoint. However they are defined, and even if they are left undefined, they are, and will always remain, foreign to the experimental domain.[3]

472. Between the two kinds of matter just mentioned three combinations are possible: I. Experimental entities may be combined with experimental entities. II. Experimental entities may be combined with non-experimental entities. III. Non-experimental entities may be combined with non-experimental entities.

473. From the standpoint we are at present taking—the matter of accord with experience—it is evident that we can consider only combinations of the first variety, for the other two are not susceptible of any sort of experimental verification. To settle any dispute a judge is necessary (§§ 17, 27), and experience disclaims jurisdiction in disputes arising under combinations II and III.

474. In the treatise commonly entitled *De Melisso* [1] the following proposition is ascribed to a philosopher: "God being everywhere the same, He must be spherical." [2] That sets up a relationship between a non-experimental entity, God, and an experimental entity, the shape of a sphere. There is no experimental criterion for passing judgment on such an issue. And yet an apparently experimental reason is offered to prove that God is spherical: it is said that He is one, that He is absolutely similar to Himself, that He sees and hears on all sides.[3] The author of the *De Melisso* is not convinced and remarks that if everything that is similar to itself throughout has to be spher-

471 [3] Here, remember, we are considering theories objectively, quite apart from the inner thought of the persons who framed them. We are dissociating them from their authors and considering them in themselves.

474 [1] It is attributed to Aristotle, and the philosopher in question is alleged to be Xenophanes. Neither assertion seems to be substantiated. The question, however, is of no importance to us. We are interested in types of reasoning. We do not care whom they belong to.

474 [2] *De Melisso, Xenophane, Gorgia,* III (Bekker, p. 977b; Diels, p. 20): *πάντῃ δὲ ὅμοιον ὄντα, σφαιροειδῆ εἶναι.* Farther along, IV, 6, 7 (Bekker, p. 978; Diels, p. 27), a similar dictum of Parmenides is noted [and denied: *οὐδὲ τὸν θεὸν ανάγκη εἶναι διὰ τοῦτο σφαιροειδῆ*]; and in the fragments of Parmenides, *Carmen,* vv. 101-03 (Karsten, p. 38), one reads: "Since he [God] is perfect to the very extremities everywhere, he is like unto the globe of a round sphere, all of which is equidistant from its centre."

474 [3] *Ibid.,* IV, 6, 7 (Bekker, p. 978; Diels, p. 27).

ical, white lead, which is white throughout, should also be spherical. And he gives other arguments of the kind. All that very evidently overreaches the domain of experience, and if we would keep within the experimental field, we can neither endorse nor disavow either party in the controversy. Any siding with the one or the other would be due to some sentimental inclination on our part and not to any experimental consideration.

475. But we happen on another dispute in the same treatise. Xenophanes holds that the Earth and the air are infinite in extent, and Empedocles denies that.[1] The entities here are experimental, and experience can pronounce judgment. It has in fact rendered judgment—in favour of Empedocles.

476. Now most theories on social matters that have been current down to our own time tend to approximate the type of theory that is made up of non-experimental entities, but usurps the form and appearance of experimental theory.

477. Taking our stand on formal logic and disregarding validities of premise, the strongest position for us is provided by combinations of the type III, and the next strongest by combinations of the type II. If, in the proposition "$A = B$" both A and B are non-experimental entities, the person who would keep strictly to the experimental field can raise, obviously, no objections of any kind whatsoever. When St. Thomas asserts that angel speaks to angel, he sets up a relation between things about which the person keeping strictly to experience can say nothing. The case is the same when the argument is elaborated logically and one or more inferences are drawn. St. Thomas is not content with his mere assertion; he is eager to prove it, and says: "Since one angel can express to another angel the concept in his mind, and since the person who has a concept in his mind can express it to another at will, it follows that one angel may speak to another."[1] Experimental science can find no fault with the argument. It lies altogether outside its province. Many meta-

475 [1] *Ibid.*, II (Bekker, p. 976; Diels, p. 16). *Cf.* Aristotle, *De coelo,* II, 13, 7 (Hardie-Gaye, Vol. II, p. 294a).

477 [1] *Summa theologiae,* I[a], *qu.* 107, *art.* 1 (*Opera,* Vol. V, p. 488: *Utrum unus angelus alteri loquatur*).

physical arguments are of just that type, and many others differ from it only in taking over some term from the experimental sphere.

478. We are given the following definition: "All beings capable of some degree of activity—or one might simply say all beings, since absolute inertia is equivalent to non-being—tend to an end towards which all their efforts and all their faculties are directed. That end, without which they would not act—in other words, not exist—is what is called 'the good.' " [1] So one thing unknown and lying outside the experimental field ("the good") is defined by another thing even more unknown and likewise lying outside the experimental field ("the end"). On such an argument we can have nothing to say. For its part, unfortunately, the argument does not stay at home; it is soon intruding upon the experimental world, where it necessarily comes into collision with experimental science.

479. The first class of combinations comprises all scientific theories; but it also contains others—exceedingly interesting ones—that are pseudo-scientific in character. Pseudo-scientific theories arise through the elimination of some non-experimental entity that has been used merely to establish certain relations, not otherwise demonstrable, between experimental entities. The person, for example, who gives the definition of "the good" quoted above, has not the remotest intention of remaining in the high and nebulous regions whence he takes wing. Sooner or later he intends to return to this lowly earth of experience—it is too important, after all, to be entirely ignored. Similarly, to the assertion that the Scriptures are inspired by God the person who insists on remaining within the limits of experience can make no objection. But those who assert divine inspiration intend to use it eventually to set up this or that relation between experimental entities—to assert, for example, that there are no antipodes. Such propositions logico-experimental science has to judge intrinsically, without reference to the non-experimental considerations on which they are based. So again, the metaphysical theory of "solidarity" is immune to rebuttal from logico-experimental science; but those who invented that non-experimental phan-

478 [1] Franck, *Dictionnaire des sciences philosophiques, s.v. Bien.*

tom intend to avail themselves of it to establish relations between experimental entities and, specifically, between their pockets and their neighbour's money. Such experimental relations and operations logico-experimental science must judge intrinsically, disregarding the fancies and vagaries of the Holy Fathers of the Church of Solidarity.

480. These particular cases fall under the following general formula. Let *A* and *B* stand for two things lying within the experimental domain, and *X* for another thing lying outside that domain. A syllogism is drawn with *X* as the middle term. *X* eventually disappears, and just the relation between *A* and *B* is left. Experimentally, neither the major nor the minor premise can be accepted because of the term *X*, which transcends experience; and therefore the relation between *A* and *B* cannot be accepted (or rejected) either, for it is a relation that is experimental only in appearance. In *the logic of sentiment* (§ 1416), on the other hand, in a reasoning developing by accord of sentiments, the syllogism may be as sound as sound can be; because, in reality and taking due account all along of the indefiniteness of terms in ordinary language, if the sentiments aroused by *A* accord with the sentiments aroused by *X*, and the sentiments aroused by *X* with the sentiments aroused by *B*, it will follow that on the whole the sentiments aroused by *A* will accord with the sentiments aroused by *B*. Farther along (§ 514) we are to examine this argumentation from the standpoint of its persuasive force. Suppose just here we begin by considering it from the experimental standpoint.

481. We must be on close guard against two mistakes that may be made in inverse directions: (1) the mistake of accepting the relation between *A* and *B* arising from the elimination of *X*, on the strength of the syllogism, without a strictly experimental verification; (2) if it be experimentally verifiable that the relation between *A* and *B* exists, the mistake of concluding from that fact that, according to experimental science, *X* exists; or conversely, if it be experimentally ascertained that the alleged relation between *A* and

B does not exist, the mistake of concluding that, according to experimental science, *X* is non-existent (§§ 487, 516, 1689).

482. For that matter, our reason for rejecting on experimental grounds the relation between *A* and *B* arising from the elimination of *X* is in part purely formal; and we may ignore it if the relationship between *A* and *B* has been experimentally established. The test of that relationship is, after all, the purpose of the theory. Of what importance the means by which it is realized?

483. In such a problem we have to keep three researches distinct:

a. The investigation of *what is*—in other words, the study of real movements

b. The investigation of what *would happen* under certain conditions—in other words, of virtual movements

c. The investigation of what *ought* to be.

484. *a.* As for what really is, experience has passed its judgment. Reasonings of the type mentioned almost never yield relationships that are verifiable on the facts (§ 50).

485. Let us go back to the matter of the antipodes already alluded to (§ 67). Are there people called antipodes on the face of the earth? Good sense and prudence ought to have counselled people to leave the task of solving that problem to experience. St. Augustine chooses to solve it *a priori*—and, after all, his reasoning is no worse than many others that are accepted in our time, since it has, if nothing else, the merit of being intelligible. The Saint says:[1] "There is no reason for believing that, as some fancy, there are Antipodes, that is to say, people on the opposite side of the earth, where the sun rises when it sets on our side, people who tread with their feet that part of the earth which is opposite to the soles of our feet." There is no historical proof of the fact, the Saint continues. The part of the earth opposite to ours may be covered with water, and therefore be uninhabited. But then, even if it is not covered with water, "it is not at all necessary that it be inhabited. For Holy Writ makes no mention of such a thing and Scripture justifies its accounts through the fact that, in the past, things that it predicted have come to pass. And

485 [1] *De civitate Dei,* XVI, 9.

it is moreover exceedingly absurd to say that some men could have sailed across the vast Ocean, gone from this part to that part of the earth, and founded a new branch of the human race." The argument is well knit and, if one will, even sound; but unfortunately it is at war with the facts; nor have the many similar arguments designed to prove that there were and could be no antipodes enjoyed a better fate.

486. Lactantius Firmianus says: "Can anyone possibly be so stupid as to believe that there are men who walk with their feet up and their heads down? Or that there [at the antipodes] all that which with us lies on the ground is upside down? That crops and trees grow downward? That rain, snow, and hail fall upward to the earth?" [1] The error here may be of theological origin, but it is metaphysical in form at least. Lactantius reasons like a Hegelian. He

486 [1] *Divinae institutiones,* III, *De falsa sapientia,* 24, 1 and 7-9, 10-11 (*Opera,* Vol. I, pp. 254-56; Fletcher, Vol. I, pp. 196-97): *"Quid illi qui esse contrarios vestigiis nostris antipodas putant? Num aliquid loquuntur? Aut est quisquam tam ineptus qui credat esse homines quorum vestigia sint superiora quam capita? Aut ibi quae apud nos iacent inversa pendere? Fruges et arbores deorsum versus crescere? Pluvias et nives et grandines sursum versus cadere in terram?"* Lactantius replies to the "philosophers" the way our Hegelians answer the physicists. He says that from the movement of the sun and the moon the "philosophers" have concluded that the sky was round: "From this roundness of the heavens it would follow that the earth was contained in the centre of its interior; and if that were so, the earth itself would be globe-shaped; for nothing embraced by a round globe could help being round itself. But if the earth were round it would have to offer the same face [*i.e.,* the same sort of surface] to all parts of the sky, raising mountains, that is [*i.e.,* in the nether hemisphere as well as in the upper], spreading out its plains and its flat seas. And if that were so, this extreme consequence would also follow, that there would be no part of the earth which is not inhabited by men and other animals. So the roundness of the heavens [*i.e.,* the theory that the universe is a globe] would leave the Antipodes hanging head downward. And if you ask the people who sustain such marvels why everything does not fall into the nether part of the heavens, they answer that, in the nature of things, heavy things are carried towards the centre and are connected with the centre like spokes in a wheel, whereas light things, such as clouds, smoke, or fire, are repelled from the centre so that they rise towards the sky. What I am to say to that I am sure I do not know, unless it be that having uttered one foolish thing, they have to go on and defend it with another." That sounds like Hegel taking Newton to task! Lactantius, good soul, concludes: "I could prove with many arguments that it is in no way possible for the sky to be lower than the earth [Still the Hegelian method of arguing from concepts—here the concept "lower."], were it not time for this book to come to a close." A great pity! What we have missed!

finds, and everybody will find with him, that the concepts of "high," "low," "upwards," "downwards" (as known in our hemisphere), are incompatible with the existence of antipodes. He is right, in fact: it *is* ridiculous to imagine people walking with their heads down and their feet up. However, if a person reasons not on concepts but on things, and considers names merely as labels serving to keep track of things (§ 119), he readily sees that when we move on to the part of the earth opposite to ours we have to shuffle our labels about, exchanging the tag "upward" for the tag "downward." Then belief in antipodes ceases to be ridiculous. Though errors such as Lactantius made have vanished, or all but vanished, from the natural sciences, they are still very common in the social sciences, where many people continue reasoning in that fashion. Anyone not afraid lest his conclusions stand in a similar relation to the facts may go on reasoning like Lactantius or the Hegelians. If he would, as far as his ability will allow, have his conclusions stand to the facts in the relations observable in the physical sciences, he must try to reason after the manner now customary in those sciences (§§ 5, 69, 71).

487. Many have turned, and many, I believe, are still turning, the errors of the Fathers with regard to the antipodes to the discredit of Christianity, or, at least, of Catholicism. But really religion is in no wise responsible for such errors, and sufficient proof of that is the fact that many pagans also gave the earth a form other than spherical and ridiculed believers in antipodes.[1] Lucretius, the atheist, reasons no better than Lactantius. He deems absurd the view that the earth holds together because all bodies tend toward the centre. "Can you believe," he says, "that bodies can hold themselves up all by themselves, that the heavy bodies under the earth all tend upward and then stick to the opposite part of the earth upside down, like the reflections we see on our side in water? On similar grounds it is

487 [1] Plutarch, *De placitis philosophorum*, III, 10 (Goodwin, Vol. III, p. 155). *Idem, De facie quae in orbe lunae apparet*, 7, 2 (Goodwin, Vol. V, p. 243): "We must not heed philosophers when they try to refute paradox with paradox. . . . And what absurdities do they not put forward? Do they not say that the Earth is spherical, though it has such great cavities, heights, inequalities? That it is inhabited by Antipodians, who crawl like worms and lizards, upside down?"

maintained that animals go about head downwards, and that they cannot fall from the Earth into the nether spaces of the heavens any more than our bodies can rise to the higher regions of the sky." [2]

488. The best that can be said is that a strong faith of whatever kind, be it religious or metaphysical, saves a person from the prudent scepticism of the experimental sciences through the pride one takes in knowing the absolute. But that is an indirect cause of error. The direct lies in trying to reason on concepts rather than on facts, and in using introspection instead of objective observation.[1]

489. Amusing indeed is Cosmas Indicopleustes. His second prologue is entitled "Christian Topography, Embracing the Whole Universe, and Proved from Holy Writ, wherewith Christians Must Not Disagree." [1] First he takes a fling at "those who though Christians believe and teach with the pagans that the sky is spherical." He has proofs, excellent in truth, that the Earth is not spherical. "Considering its incalculable weight how can the Earth hang suspended in the air and not fall?" [2] Whereas from Scripture we learn that the world has the shape of an oven and that the earth is quadrangular. The tabernacle built by Moses is the image of the world. Needless to say, the existence of antipodes is a ridiculous myth; and to show just how ridiculous it is, Cosmas gives a drawing in which very large men are shown standing feet to feet on opposite sides of a very small globe, 131 D (Migne, p. 130; Winstedt, p. 92): "As for antipodes, Scripture does not permit us to utter or heed such nonsense. For it says [Acts 17:26]: '*and* hath made of one blood all nations of men for to dwell on all the face of the earth.' . . . It does not say on all the *faces,* but on the *face.*" And other arguments just as decisive follow.

487 [2] *De rerum natura,* I, vv. 1056-63. Lucretius, however, has one thing in his favour: he did not dream of persecuting those who differed with him.

488 [1] Here, as elsewhere, we contrast concepts with facts, the subjective with the objective, not in any metaphysical sense, but in an experimental sense, as explained in §§ 94-95.

489 [1] *Topographia Christiana,* Prologue B (Migne, p. 58; Winstedt, p. 41): *Χριστιανικὴ τοπογραφία περιεκτικὴ παντὸς τοῦ κόσμου, ἀποδείξεις ἔχουσα ἐκ τῆς θείας Γραφῆς, περὶ ἧς ἀμφισβητεῖν Χριστιανοῖς οὐ δέον.*

489 [2] *Ibid.,* 65A (Migne, p. 66; Winstedt, p. 46): *τὰ τοσαῦτα ἀμίθητα βάρη τῆς γῆς, πῶς δυνατὸν ὑπὸ ἀέρα χρεμᾶσθαι καὶ ἵστασθαι, καὶ μὴ καταπίπτειν;*

490. Even writers who are otherwise keen enough have theories no better when they set to reasoning metaphysically. Aristotle demonstrates at length in his *De coelo* that the movement of the heavens has to be circular. He begins by asserting that every movement in space must be either rectilinear, or circular, or else a combination of the two (I, 2, 2; Hardie-Gaye, Vol. II, 268 b). He follows with another declaration: that only rectilinear and circular movements are *simple*. Then he says, I, 2, 4: "I call those bodies simple which have in themselves naturally the principle of motion, such as fire, earth, and the like." [1] That is a definition, and no objection could be made to it if it were clear. Unfortunately it is not, and that is a defect common to all the definitions of the metaphysicists, since these inevitably contain terms that correspond to nothing real. "Have in themselves naturally the principle of motion!" What on earth can that mean? Nothing whatever! It is a verbiage that acts solely upon a reader's sentiments.

491. Those meaningless assertions and definitions eventually serve for reasonings that are professedly exact, I, 2, 5 (Hardie-Gaye, Vol. II, p. 269a): "So then, since there is a simple motion, and circular motion is simple; and since a simple body has a simple motion, and a simple motion belongs to a simple body (if it were compound it would move according to its preponderant constituent), there must be a simple body which by nature moves in a circle." That dazzling argument is reinforced by the following, I, 2, 9: "This motion, therefore, must necessarily be the first. The perfect by nature precedes the imperfect. Now the circle is perfect, whereas the straight line is not. . . . Hence if the primary motion is of that body which is first in nature, and if circular motion is superior to the rectilinear, which is proper to simple bodies (for fire rises in a straight line, and terrestrial bodies fall towards the centre), circular motion must necessarily belong to a simple body." [1] Obviously, there is nothing

490 [1] *λέγω δ' ἁπλᾶ ὅσα κινήσεως ἀρχὴν ἔχει κατὰ φύσιν, οἷον πῦρ καὶ γῆν καὶ τὰ τούτων εἴδη καὶ τὰ συγγενῆ τούτοις.*

491 [1] *Ἀλλὰ μὴν καὶ πρώτην γε ἀναγκαῖον εἶναι τὴν τοιαύτην φοράν. Τὸ γὰρ τέλειον πρότερον τῇ φύσει τοῦ ἀτελοῦς, ὁ δὲ κύκλος τῶν τελείων, εὐθεῖα δὲ γραμμὴ οὐδεμία.* Τέλειος, "perfect," in Greek has two meanings: "finished," "complete," and also "with-

experimental about this argument. Its whole force lies in sentiments that are aroused by suitably chosen terms, and it persuades because those sentiments are in apparent accord with one another, or at least do not stand in overt conflict. Following that course one may find anything one wishes, just as one can look at the clouds in the sky and make out the shapes of any sort of animal. So Plato considers the circle and the sphere "divine." And why not? He is at liberty to call them "divine," just as a schoolboy baffled by the problems of spherical trigonometry is at liberty to call them "hellish." Such are mere expressions of sentiment, with no relation whatsoever to any objective reality.[2]

out fault," "the best possible." Aristotle, *Ethica Nicomachea,* V, I, 15 (Rackham, p. 259), uses the word in the latter sense to designate a virtue that is the "highest" "most exalted": *τελεία ἀρετή*. This ambiguity in the meaning of *τέλειος* helps to conceal the inanity of the argument in the *De coelo*. The circular movement is "finished" (complete) because it returns upon itself, because it can go on indefinitely on the same curve; and when in that way the adjective *τέλειος* has gained acceptance, it follows, by virtue of the double sense, that circular motion is better than any other motion (§§ 1556 f.).

There is still another play on ambiguity in *De coelo,* II, 4, 2 (Hardie-Gaye, Vol. II, p. 286b-87). There the reasoning on the "perfect" circle is repeated. The circle is said to be perfect as compared with the straight line because something can be added to the straight line, nothing to the circle. Then Aristotle goes on: "Therefore if the perfect is anterior to the imperfect, for that reason too the circle is first among figures." This argument is as valid for any closed curve as for the circle. So Aristotle says, *De generatione et corruptione,* II, 10, 8 (Joachim, p. 337a): "When air comes from water, and fire from water, and, again water from fire, we say that the process takes place in a circle, since it comes back upon itself." If the passage in the *De coelo* were to be interpreted in that sense, the contrast in the passage would be between a movement that returns upon itself and a movement extending indefinitely along an unclosed line. But that is in no wise the case: a geometric circle, no more, no less, is in question, for in II, 4, 6 Aristotle bars not only irregular polygons, but any curved figures where the radii are not all of equal length, such as egg-shaped or lens-shaped figures. It is therefore evident that the phrase "circular motion" has now one sense, now another; at one time it is just motion along a closed curve, at another, motion around a geometric circle.

491 [2] Plato, however, is speaking of circle and sphere as such. He lays down that some sciences are truer than others. He takes the case of a man who has a true knowledge of justice, and then tries to show how that knowledge mingles with other knowledge less perfect. *Philebus,* 62A: "Will such a man be sufficiently wise if he knows the nature (*λόγον*) of the divine circle and sphere (. . . *κύκλου μὲν καὶ σφαίρας αὐτῆς τῆς θείας τὸν λόγον ἔχων*) and does not know the nature (*λόγον*) of the human circle and sphere?"

492. Aristotle, *De coelo,* II, 13, 19 (Hardie-Gaye, Vol. II, p. 295b), explains how the immobility of the Earth used to be demonstrated according to Anaximander: There is no reason why a body placed in the centre and equidistant from the extremities should be moved upward rather than downward or obliquely; and since it is impossible for a body to move in opposite directions at one time, it must necessarily remain motionless. And here are words of one of the greatest scientists of our modern times: "A body at rest cannot set itself in motion, since it has within itself no reason for moving in one direction rather than in another. . . . The direction of rectilinear movement evidently follows from the lack of any reason why the body should move to the right rather than to the left of its original direction." [1]

Anaximander's proposition is contradicted by experience; the propositions of Laplace are confirmed by experience. In both cases the demonstrations are without the slightest value.

493. The argument is framed on the following model: "Anything that to me and other men seems impossible will certainly not happen. I see no reason why *A* should be *B*. Therefore *A* cannot be *B*." That is the usual introspective syllogism (§§ 43, 69, 111, 434).

494. The fallacy in the argument is less evident because what ought to be stated in subjective form is stated in objective form. Laplace said: "There is no reason why the body should move to the right rather than to the left." Had he chosen to state his thought exactly, he would have said: ". . . it seems to me that there is no reason why . . ." But in that form the fallacious character of the proof would have been more strikingly apparent. Laplace might have replied that he did not use the revised form because the thing seems as it seems not to him only, but to all men. Another of the great sources of error in such reasonings! It simply is not true that things seem to all men as they seem to him. Most men have never

492 [1] Laplace, *Traité de mécanique céleste,* Vol. I, p. 14: *"Un point en repos ne peut se donner aucun mouvement, puisqu'il ne renferme pas en lui-même de raison pour se mouvoir dans un sens plutôt que dans un autre. . . . La direction du mouvement en ligne droite suit évidemment de ce qu'il n'y a aucune raison pour que ce point s'écarte plutôt à droite qu'à gauche de sa direction primitive."*

given a thought to the subject! But never mind that. Even if they had, the universal consensus of mankind would not enhance the value of the proposition by a jot and would have no power to make a thing that is subjective objective (§ 502).

495. As usual, reasonings of this type are lacking in any exactness—a fact we have often had occasion to stress and shall continue stressing. What can it mean to say that a body "has within itself no reason for moving in one direction rather than in another"? And how can we know whether really it has no such reason within itself? In no other way than by observing whether it remains at rest. The Laplace proposition therefore amounts to saying that a body is at rest when it is at rest—a thing as true as it is useless to know.

496. To say that "force" is the "cause" of motion is to think one is saying something and to say nothing—to define an unknown by an unknown.[1] What would this thing called the cause of the movement be? It is difficult to imagine any other reply than that the cause is a force; so that the proposition comes down to saying that a force is a force. A ban has been laid on such methods of reasoning in the science of modern mechanics.[2] In these volumes we were trying to follow that good example for sociology.

497. "Natural," "violent," "voluntary" movements play an important part in ancient philosophy. To see how much nonsense can be emitted on such matters, one has only to read the tenth book of Plato's *Laws*. Aristotle, too, unfortunately allowed himself to be

496 [1] Poisson, *Traité de mécanique,* Vol. I, p. 2: "In general the term 'force' is applied to any cause of motion in a body." Physicists eventually became aware of the inanity of such a definition. Barré de Saint-Venant, *Principes de mécanique fondés sur la cinématique,* p. 65: "From our strictly practical point of view, we do not stop to consider whether 'mass' has any bearing on the *quantities of matter* in the various heterogeneous bodies . . . nor whether 'force' has any bearing on the *efficient-causes* of movement in such bodies."

496 [2] Picard, *La mécanique classique et ses approximations successives,* p. 6: "In the study of constant fields, force has been successively defined in two different ways, first by static measures, then from a dynamic standpoint, in terms of the accelerations corresponding to the fields. No relation between these two evaluations was *a priori* necessary, and we must regard it as an experimental result that the numbers representing forces considered from the dynamic and from the static standpoint are proportional." This last remark should be pondered with the greatest care. The conception it voices is fundamental to science.

lured into similar lucubrations, and so was in a position to be used against Galileo when the latter was laying the foundations of experimental physics. In that science the work of Galileo already belongs to a historic past. An achievement as significant is as yet barely on the horizon for sociology, even in our day.

498. Cicero puts into the mouth of Balbus an argument to prove that the stars move of their own volition. According to Aristotle, says Balbus, everything that moves is moved either by nature, or by force, or by choice. How then do the Sun, Moon, and stars move? "Whatever is moved of nature is borne either downward by its weight or upward by its lightness. No one of those things is the case with the stars, since they move in circular orbits. Nor can it be said that the stars are moved against nature by a greater force, for what force could be greater? It results, therefore, that the motion of the stars is voluntary." [1]

499. Theories of that kind are evolved in great numbers when thinking is based on concepts and words rather than on facts.[1] And when the error becomes manifest, when it can no longer be decorously denied, instead of abandoning the method of reasoning that led to it, people obstinately try to preserve it and merely seek ways of adapting it to the data of experience.

500. If experience has in advance established a relation between two experimental facts *A* and *B,* the theological or metaphysical thinker rearranges his words in such a way as to picture that relationship as closely as possible. But, unfortunately, if a person is in the habit of thinking in theological and metaphysical terms, he does not readily adapt himself to the exactness of scientific reasoning, with the result that the experimental relation existing between *A* and *B* is not reproduced as closely as is desired, and very often is grossly distorted.

501. Long protracted in science was the reign of the notion that

498 [1] *De natura deorum,* II, 16, 44: *"Quae autem natura moverentur, haec aut pondere deorsum aut levitate in sublime ferri: quorum neutrum astris contingeret propterea quod eorum motus in orbem circumque ferretur. Nec vero dici potest vi quadam majore fieri ut contra naturam astra moveantur: quae enim potest maior esse? Restat igitur ut motus astrorum sit volontarius."*

499 [1] The matter will be dealt with at length in Chapter IX.

celestial bodies, being perfect, had to move in circles. It finally came to be recognized that that idea was false, or better, nonsensical; and the discovery was made by a method altogether different from Aristotle's—by the empirical observations of Kepler.

502. Now that metaphysicists know—or think they know—that planets move in ellipses with the Sun at one of the foci (§ 69[5]), they do their best to arrive by their methods of reasoning at that conclusion, which is—or rather, which they imagine has been—established by experience.[1]

Says Hegel: "A circle is the curve the radii of which are all equal —that is to say, it is completely determined by the radius. It is a unity that can be added to itself, and therein lies its whole determinability. But in free motion, where the determinations of time and space are differentiated and a qualitative ratio is established between them, that same ratio has to be introduced into space as a *differential* producing two determinations in it. Consequently the essential form of planetary revolution is the ellipse." [2]

503. Hegel's demonstration, *Ibid.*, § 270, of Kepler's third law is wonderful indeed: "As root, time is only an empirical magnitude. As quality, it is nothing but an abstract unity.[1] As an aspect of the developed totality, it is, in addition, a determined unity, a reflected

502 [1] For the statement to be true, the motions of the planets have to be referred to a sun that is assumed to be stationary, at the same time assuming that the masses of the planets as compared with the Sun's, as well as the reciprocal attractions of the planets, may be ignored.

502 [2] *Naturphilosophie,* Pt. I, Chap. III, § 270 (p. 130). [As a check on Vera's exceedingly free and at times inaccurate translation Hegel's original is prefixed to Pareto's note.—A. L.]: *"Der Kreis ist die in sich zurückkehrende Linie, in der alle Radien gleich sind: d.h. er ist durch den Radius vollkommen bestimmt; es ist diess nur Eine, und zwar die ganze Bestimmtheit. In der freien Bewegung aber, wo räumliche und zeitliche Bestimmungen in* Verschiedenheit, *in ein qualitatives Verhältniss zu einander treten, tritt nothwendig diess Verhältniss an dem Räumlichen selbst als eine* Differenz *desselben hervor, welche hiermit zwei Bestimmungen erfordert. Dadurch wird die Gestalt der in sich zurückgehenden Bahn wesentlich eine* Ellipse;—*das* erste *der Kepplerischen Gesetze."* Vera is a Hegelian of great repute. He must have understood what his master meant in the passage quoted. I transcribe below certain of the notes that he appended to his translation of Hegel; they add light to a text that is already clarity itself.

503 [1] Hegel: *"eine bloss empirische Grösse, und als qualitativ nur eine abstrakte Einheit."* Vera, Vol. I, pp. 296-97: "It appears in that form in the fall (*chute*—the completed act of falling)."

totality.[2] It produces itself, and in producing itself it does not transcend itself.[3] But as it has no dimensions, in producing itself it attains only to formal identity with itself, to the *square;* and space, on the contrary, which constitutes the positive principle of external continuity,[4] attains to the dimensions of the concept, to the *cube.* Thus their primitive difference subsists in their realization. That is Kepler's third law concerning the ratio of the cube of the distance to the square of the time." Indeed! Who would ever have thought it! What a prodigious mind to understand all that![5]

503 [2] Hegel, *"für sich."* Vera: " 'In itself': here, that is, 'complete.' " Alas, the very interesting things called "reflected totality, in itself complete" are still unknown to us!

503 [3] Hegel: *"producirt sich, und bezieht sich darin auf sich selbst."* Vera: "The square, that is."

503 [4] Hegel: *"als das positive Aussereinander."* Vera: "As continuing positive exteriority."

503 [5] Hegel's German: *"Als Wurzel ist die Zeit eine bloss empirische Grösse, und als qualitativ nur abstracte Einheit. Als Moment der entwickelten Totalität aber ist sie zugleich an ihr bestimmte Einheit, Totalität für sich, produciert sich und bezieht sich darin auf sich selbst; als das in sich Dimensionslose kommt sie in ihrer Production nur zur formellen Identität mit sich, dem Quadrate: der Raum dagegen, als das positive Aussereinander, zur Dimension des Begriffs, dem* Cubus. *Ihre Realisirung behält so den ursprünglichen Unterschied derselben zugleich bei. Diess ist das dritte Kepplerische Gesetz, das Verhältniss des* Würfels der Entfernungen zu den Quadraten der Zeiten."

The most remarkable of Vera's notes, Vol. I, p. 297, relates to a sentence of Hegel immediately following the passage quoted in his translation: ". . . a law that is profound merely because it is so simple and expresses the intimate nature of the thing." [Hegel's original: ". . . *ein* Gesetz, das darum so gross ist, weil es so einfach und mittelbar die *Vernunft* der Sache darstellt."] It is too long to quote entire. This titbit will suffice, however—Vol. I, p. 297: "Now by the very fact that the fall (*chute*) is only an aspect (*moment*) of finished mechanics, time, space, and matter are present in it only in an abstract and incomplete manner: in other words, all the elements constituting them are not present in it in their fully developed form, their unity. Time figures only as a root, space as a square, and as a purely formal square." My heart-felt sympathy for that poor "fall" in which time figures only as a "root." I do not deny that this manner of stringing words together haphazard may lead to some "simple" and "profound" law that "expresses the intimate nature of the thing," for I have no idea of what such an estimable nature may be. But in the present volumes on sociology I am not looking for any such "intimate nature," and I therefore try, as best I know how and can, to keep clear of disquisitions of that kind (§ 20). The day may come when sociologies to be written in the future will stand in the same relation to those now in vogue as the celestial mechanics of Gauss stands to Plato's ramblings or the vagaries of the astrologers.

504. But there is better yet! What is a diamond? "The diamond is the typical crystal, that product of the earth at sight of which the eye rejoices because it sees in it the first-born of light and weight. Light is abstract and completely free identity. Air is the identity of the elements. The subordinated identity [1] is an identity passive to light, and that is the transparency of the diamond [*read,* crystal]." [a] Having understood the transparency of the diamond, you might now consider metal: "Metal, on the other hand, is opaque, because in metal individual identity is concentrated into a more profound unity by a high specific gravity." [2]

505. A reminiscence of that exalted and luminous thinking is doubtless to be seen in the following passage from a philosopher of our day.[1] "What is the movement of a body through space? It is mechanics realizing itself. What is the formation of a crystal in the bosom of the earth? It is geometry making itself visible to the eye." Similar reasonings are current among all metaphysicists regardless of their country of origin. The Chinese had long since observed the influence of the Moon on the tides and given an explanation of it worthy of a Hegel.[2]

504 [1] Hegel: *"unterworfene";* Vera, Vol. II, p. 21: " 'Subjugated,' 'subdued,' as contrasted with the individual identity (*individuelle Selbst*) of metal, which is not passive to light."

504 [a] *Ibid.,* § 317 (p. 306): *"Der Urkrystall ist der Diamant der Erde dessen jedes Auge sich erfreut, ihn als den erstgebornen Sohn des Lichts und der Schwere anerkennend. Das Licht ist die abstracte, vollkommen freie Identität,—die Luft die elementarische; die unterworfene Identität ist die Passivität für das Licht, und das ist die Durchsichtigkeit des Krystalls. Das Metall ist dagegen undurchsichtig, weil in ihm das individuelle Selbst durch hohe specifische Schwere zum Fürsichsein concentriert ist."*

504 [2] The density of the diamond is about 3.5. Certain crystals have the following densities: glass, 3.3; various flints, from 3.6 to 4.3. Aluminium, however, has (melted) a density of 2.56. Following Hegel's system, therefore, aluminium ought to be more transparent than diamond or glass. It is the hard luck of the metaphysicists that the contrary happens to be true. But they are never terrified by such disasters and always find ways to reconcile the yes and the no. Their repeated errors and absurd theories have so discredited them in the physical sciences that no one takes them seriously any longer; but they continue to swagger about in the literature improperly denominated social science.

505 [1] Fouillée, *Critique des systèmes de morale contemporains,* p. 22.

505 [2] Davis, *The Chinese,* Vol. II, p. 283 (1836, p. 307): "M. Klaproth remarked, that in an encyclopaedia, written before the close of the ninth century, it is said

506. St. Thomas also knows how some bodies come to be opaque and others transparent:[1] "For light being a quality of the first alterant, which is the most perfect and formal in bodies, those bodies which are in the highest degree formal and mobile are lucid in act; those that are most like them, such as transparent bodies, receive light; and those that are most material neither have light in their nature nor receive light, but are opaque. This is manifest in the elements, for fire has light in its nature, but its light is visible only in extraneous matter, because of its subtlety. Air and water are less formal than fire and are therefore merely transparent. But the Earth, which is in the highest degree material, is opaque." The Angelic Doctor was a great saint, but not a great physicist.[2]

The terms "just," "equitable," "moral," "human," "socially-minded" (*solidal*), and the like, which are today current in the social sciences, are of the same character as the terms "hot" (§ 871), "cold," "heavy," "light," and so on, which were formerly used in the natural sciences. They often lead astray and give the impression that an altogether fantastic argument is of an experimental character (§§ 965, 1551).

507. It is a curious thing that in examining the theories of his predecessors, Aristotle was aware of the source of their errors:[1] "The

that 'the Moon, being the purest principle of water, influences the tides.'" Hegel, *Op. cit.*, § 279 (p. 177): "The Moon is a waterless crystal striving to complete itself, to quench the thirst of its rigidity in our oceans, so producing the tides. The sea swells upward and is on the point, as it were, of leaping toward the Moon, and the Moon in its turn seems eager to take possession of the sea." Metaphysical sociologists write on social questions today in just such terms. Hegel's German: *"Der Mond ist der wasserlose Kristall, der sich an unserem Meere gleichsam zu integriren, den Durst seiner Starrheit zu löschen sucht, und daher Ebbe und Fluth bewirkt. Das Meer erhöht sich, steht im Begriff, zum Monde zu fliehen, und der Mond, es an sich zu reissen."*

506 [1] *De natura luminis* (*Opuscula*, 51, *Opera*, 1570, Vol. XVII-2, p. 36, 1B).

506 [2] And yet he had begun with an acute remark, noting that ordinary language is misleading as to the nature of light: "Some have said that light is corporeal, led into that error by certain locutions that people use in speaking of light. We ordinarily say that a ray of light darts through the air, that rays of light are reflected, that rays of light intersect—all such things being apparently corporeal."

507 [1] *De generatione et corruptione*, I, 2, 10 (Joachim, p. 316a).

cause of their seeing the things that we know[2] less clearly [than we do] was their lack of experience; for people who have spent their lives observing nature are best qualified to make hypotheses as to the principles that bring great numbers of facts together." Had Aristotle remained faithful to the principle he stated so well, he might have hastened the progress of humanity in science by many centuries.

508. Bacon's case is even more curious. It has been frequently remarked that he thought soundly enough on the experimental method, but then practised it badly. Here, for example, is one of his admonitions:[1] "There is nothing sound about our notions whether in logic or physic. 'Substance,' 'quality,' 'action,' 'passivity' [Devey: "passion"], 'essence' [Devey: "existence"], are not sound [Devey: "clear"] notions: and much less 'weight,' 'levity,' 'density,' 'rarity' [Devey: "tenuity"], 'moistness,' 'dryness,' 'generation,' 'corruption,' 'attraction,' 'repulsion,' 'element,' 'matter,' 'form,' and the like. All are fantastical and indeterminate." But later on, (II, 5), he considers bodies "as a 'throng' (*turma*) or 'conjugation' of 'simple natures'";[2] and it does not occur to him that such "simple natures" are among the "notions" that he disavows.

509. In these pseudo-experimental arguments the terms *A, B* . . . which are brought into some relation or other, are usually indeterminate. We have noted ambiguities in Aristotle (§ 491). They are nothing as compared with the absolute indefiniteness of the terms used by some metaphysicists (§ 963).

510. Says Hegel: "In general one cannot deny the influence of comets. I set Mr. Bode shrieking some time ago by remarking that experience now proves that comets are attended by a good vintage, as happened in the years 1811 and 1819, and that that twin observation

507 [2] Τὰ ὁμολογούμενα: literally, "things on which we are agreed" [Joachim: "admitted facts"].

508 [1] *Novum Organum*, I, 15.

508 [2] "The rule or axiom for the transformation of bodies is of two kinds. The first regards a body as a throng (*turmam*) or union (*coniugationem*) [Devey: "aggregate or combination"] of simple natures; as, for example, in gold, the following properties [Devey: "circumstances"] are combined: yellowness, heaviness . . ."

is worth as much as the observations of the returns or comets, and even more."[1] Here he is stating a false proposition and betraying gross ignorance of astronomy by assuming that the uniformity in the "returns" of comets is a matter of merely empirical observation; but at least he uses clear and exact terms that correspond to concrete things. That, in fact, is why we see so readily that his proposition is false. But the clearness fades when he adds: "What makes cometary wine so good is the fact that the aqueous process abandons the earth, and so brings on a change in the state of the planet."[2] "What in all creation is that "aqueous process" which "abandons" our earth? Who has ever seen or heard of it?

511. The vagueness and absurdity are far greater in what Hegel says of the Moon and the tides (§ 505[2]). In strict fact, we know what he means by "crystal," "water," "thirst," "rigidity." It is his manner of combining them that makes them hard to understand. But even that glimmer of comprehensibility vanishes when Hegel says, § 279 (p. 177): "Light is simple thought itself, existing under form of nature. It is understanding in nature, or—what amounts to the same thing—the form of understanding present in nature."[1] Or again, § 277 (p. 168): "Light as constituting universal physical identity is first positable as a differentiated term and consequently as forming here a distinct and external principle in matter qualified according to another determination of the notion that constitutes the negation of light, namely, darkness."[2]

510 [1] *Naturphilosophie*, § 279 (pp. 179-80): *"Einflüsse der Kometen sind durchaus nicht zu verneinen. Herrn Bode habe ich einmal zum Seufzen gebracht, weil ich gesagt, die Erfahrung zeige jetzt, dass auf Kometen gute Weinjahre folgen, wie in den Jahren 1811 und 1819, und diese doppelte Erfahrung sey eben so gut, ja besser, als die über die Wiederkehr der Kometen."*

510 [2] 180: *"Was den Kometen-Wein so gut macht, ist, dass der Wasserprocess sich von der Erde losreisst, und so einen veränderten Zustand des Planeten hervorbringt."*

511 [1] *"Es [das Licht] ist der einfache Gedanke selbst, auf natürliche Weise vorhanden. Denn es ist Verstand in der Natur; d.h. die Formen des Verstandes existieren in ihr."* Vera comments, Vol. I, pp. 378-79: "Understanding, rather than speculative reason, is predominant in light, precisely because light is an abstract identity."

511 [2] *"Das Licht verhält sich als die allgemeine physicalische Identität zunächst als ein* Verschiedenes (§ 275), *daher hier Aeusseres und Anderes, zu der in den*

512. If all such verbiage were nothing but a reflection of the psychic state of given individuals, there would be no more occasion for bothering with it than with the ravings of a lunatic. But it has been admired by many people, and its equivalents in the social sciences continue to enjoy great prestige. For that reason they deserve consideration as a social phenomenon of great importance (§ 965).

513. The psychic state of people who imagine they understand arguments of that kind is not so very different from the psychic state of the people who thought they understood the abstractions of the old mythology and theology. In that we get another proof of the fact that evolution does not take place along a continuous line (§ 344). The three psychic states, *A, B, C* of Figure 11 stand in such succession that they may be supposed to form a continuous unit; but there are branches which lead to experimental cognitions *p, q, r* . . . or to other mystical, theological, or similar vagaries, *M, N* . . .

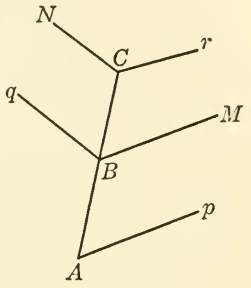

Figure 11

514. Those considerations carry us into the field of the *logic of sentiments* (§ 480). Ordinary thinking confuses the three propositions following:[1]

I. $A = X, X = B$, therefore $A = B$.

II. The name *a* of the thing *A* arouses in a person sentiments equivalent to the sentiments aroused by the word *X;* these are equivalent to the sentiments aroused by the name *b* of the thing *B;* therefore sentiments aroused by the name *a* are equivalent to the sentiments aroused by the name *b.*

anderen Begriffs-Momenten qualificirten Materie, die so als das Negative des Lichts, als ein Dunkles *bestimmt ist."* Vera comments, Vol. I, pp. 360-61: *"Hier Aeusseres und Anderes:* That is to say: light is first positable as a phase opposite and exterior to another phase." P. 365: *"Das Dunkele:* the obscuring principle."

514 [1] For the sake of brevity we use the form of the mathematical equation, such as *"A = X, X = B,* therefore *A = B."* In that way we avoid secondary questions as to the character of the premises in the syllogism. This is not a treatise on logic. We are trying merely to indicate the chief point in the problem. What was said of the syllogism in § 97 also applies to arguments in equation form.

III. The premises are the same as in II, but the conclusion is: therefore $A = B$.

From the experimental standpoint, proposition I is in accord with experience if *A, X, B* are real and well-defined things, and that accord is the closer, the more exact the definitions of *A, X, B* are made. On the other hand the accord may break down if the terms are ill-defined. If *X* is not real, or, in general, if one of the three things *A, X, B* is not real, there can be no question of any accord with experience (§ 480).

The sentiments aroused by *a, X, b* are real things; hence proposition II is like proposition I and, like it, accords with experience if *A, X, B* are real. But *a, X, b* are ordinarily very vaguely defined, and the accord therefore is usually not very close.

Proposition III has no logical value whatever, since the things *A* and *B* that figure in the conclusion are different from the things *a* and *b* which figure in the premises. To acquire such value it would not be sufficient for *A, X, B* to be real, well-defined things; it would be further necessary for the accord of the concepts *a, X, b* to correspond exactly to the relation between the things *A, X, B*. Just there, in fact, lies the essential difference between metaphysics and logico-experimental science; the former assumes such accord *a priori*, the latter subjects it to experimental verification.[2]

514 [2] Metaphysicists reply that every reasoning, whether experimental or not, is on concepts. We concede the point, since we are never willing to argue over names. Using that jargon (§ 95), we will say that the difference consists in the number of the concepts and in the way in which they are used. To learn the movements of celestial bodies Hegel uses a very few concepts, picked up here and there, and through them arrives at conclusions already known, which someone else has devised to represent those movements approximately and which he in his ignorance imagines represent them exactly. Hence if in computing the positions of heavenly bodies the concepts he obtains in this fashion were compared with the concepts observed through a telescope, great discrepancies would appear. Astronomers contemporary with Hegel, on the other hand, availed themselves of large numbers of concepts that they called astronomical observations, combined them with other large numbers of logico-mathematical inferences, and from the combination derived concepts as to the positions of stars that had the singular merit of fitting in fairly well —at least much better than Hegel's concepts—with the concepts derived by the astronomical observations of the time, and with those which were later derived from astronomical observations future from the standpoint of those days, past from ours. If, therefore, one would have concepts that like Hegel's are at variance with the

In the logic of sentiment proposition III is the type of all reasoning, substantially, and is held to be certainly "true." That type can be reshaped to fit the various types of syllogism. For one example, we may say: "The sentiments that the word *a* arouses in me are the same as the sentiments aroused in me by the word *X,* which stands for a general class; these are the same as the sentiments aroused by the word *b;* therefore the thing *A,* which corresponds to the word *a,* has the attribute *B,* which corresponds to the word *b.* But in that there is still too much exactness, and the type becomes substantially: "The sentiments aroused in me by *a* are *not incompatible with* the sentiments aroused in me by *X,* and these are not incompatible with the sentiments aroused in me by *b;* therefore *A* has the attribute *B.*" The argument, moreover, is in the form of a perfectly logical syllogism, and it is obtained by translating the propositions above in the following ways: "The sentiments aroused in me by *a* accord with those aroused in me by *X*" becomes "*A* is a member of the class *X*"; and "The sentiments aroused in me by *X* accord with those aroused in me by *b*" becomes "All *X*'s have the attribute *B.*" Hence, without any breach of formal logic, the conclusion is reached that "*A* has the attribute *B.*" This sort of reasoning is very widely used and, apart from the logico-experimental sciences, may be said to be the general rule. It is used by the masses at large and is almost the only one that carries conviction to them. It predominates especially in political and social discussion (§§ 586 f.).[3]

concepts yielded by observation, one should follow Hegel's lead. Those, on the other hand, who would have concepts which better approximate the concepts supplied by observation should follow the course pursued by astronomers, physicists, chemists, and the like. Here we are trying to discover sociological concepts of the latter kind, and for that reason we are following the latter course, which alone can provide us with them. We have absolutely no other reason for following it.

514 [3] Sensini, *La teoria della rendita,* pp. 201-02: "Literary economists of an extraordinary productivity indulge in inquiries that may be summarized in this fashion: 1. You treat a subject *X* without in any respect defining the terms you use. That allows you to play indefinitely on the ambiguity of the terms. 2. You never state a problem with the necessary definiteness, since by doing so it would be evident in the vast majority of cases that the problem stated does not exist or else is unsolvable because badly stated. 3. You make liberal use of metaphysical and in general vague expressions, which, since they mean nothing, can mean anything, and

From the experimental point of view the causes of error are the following: 1. The translations cannot be experimentally accepted even if *A, X, B* are real things. 2. There is no way of knowing to what, exactly, the terms *a, X, b* correspond. The best chance for experimental verification—though not for persuasion through sentiment—is offered by a proposition in which those terms correspond without too much vagueness to real things. In that case the translations are more or less readily adaptable to realities, and the conclusion is, roughly, verified by experience. But the correspondence between *a, X, b* and real things may be very uncertain and even fail if one of the things proves not to be real. That is not noticed in the argument, which is conducted around the words *a, X, b*—they are there even if real things corresponding to them fail to materialize. That is the most important cause of error, and it vitiates every reasoning of the kind. 3. The accord or mere compatibility of certain sentiments with certain others is a vague relation lacking altogether in exactness. "The sentiments that *a* arouses in me accord with the sentiments aroused in me by *X*" is a proposition in great part arbitrary.

In ordinary logic, finally, the conclusion follows from the premises. In the logic of sentiment the premises follow from the conclusion. In other words, the person who makes the syllogism, as well as the person who accepts it, is convinced in advance that *A* has the attribute *B,* and merely wishes to give his conviction an appearance of being logical. So he goes looking for two premises that can justify the conclusion, the premises, namely, that "The sentiments which *a* arouses accord with the sentiments *X* arouses" and "The sentiments *X* arouses accord with the sentiments *b* arouses." He has little trouble in finding them, in view of the vagueness of the terms and the indefiniteness of what is meant by "accord." [4]

so stand secure against every objection. 4. You appeal more or less covertly to sentiments in general and to those most in vogue at the moment you are writing." The vast majority of literary works on economic problems that are making fortunes for their authors today are of the kind Sensini describes.

514 [4] It is therefore evident that the proposition *"A* has the attribute *B"* is the constant element in the syllogism and the element of greatest social importance. The premises leading to that conclusion are the variable and less important element. In our example of storm-compelling (§ 186-216), the conclusion of the syllogism—

515. Again in contrast with what takes place in logico-experimental thinking, where the value of a term increases in proportion to its exactness, the terms of a reasoning by accord of sentiments are more effective in proportion as they are vague and indefinite. That explains the abundant use such reasonings make of terms such as "good," "beautiful," "just," and the like (§ 408). The more indefinite the concepts corresponding to *a, X, b,* the easier it is to establish, by way of sentiments, the accord between the concept *a* and the concept *X,* between the concept *X* and the concept *b.* If *X* is the concept "perfect," it is so indeterminate that it can be easily made to agree with the concepts *A, B,* determinate or indeterminate as these may be. "The motion of celestial bodies is perfect." And why not? Sentiment suggests no conflict between the two concepts (§§ 491 [1], 1556).

516. So we have now arrived inductively, by examining concrete facts, at the point suggested hypothetically in § 13: we see, in other words, that there are many subjective, sentimental considerations of great potency which prompt people to evolve and accept theories independently of their logico-experimental validity (§ 304). We shall therefore have to deal with that subject at some length (Chapter IX).

Meantime let us note another common error to which we have already alluded (§§ 16-17), and which lies in carrying outside the logico-experimental field conclusions that are valid only within it. After the elimination of a non-experimental term *X* has established a relation between the experimental terms *A* and *B,* proof or disproof of such a relation can in no wise serve to prove or disprove the "existence" of *X.* The experimental and non-experimental worlds have nothing in common and nothing touching the one can be inferred from the other. For a long time people tried to derive scientific propositions from the Bible, those, for instance, relating

the constant element—was that tempests, hail-storms, winds, can be caused or averted by certain rites. The variable element was the explanation of such power—the premises, in other words, from which the conclusion (the belief) resulted. Induction led us to note the fact, and we stated it in general form (§ 217). Now we are going a step farther, noting the causes of the fact, bringing it into relationship with other facts.

to the movements of the Earth and the stars. Nowadays the reverse reasoning is fashionable: from the fact, that is, that such scientific propositions are false, people try to infer that biblical theology is false (§ 487). Of those two methods of reasoning neither can be accepted by anyone who insists on remaining within the experimental field (§ 481). The scientific errors of the Bible merely show that we must not go to theology for the relationships obtaining between experimental facts; just as Hegel's scientific errors merely show that metaphysics is no better prepared than theology to supply those relationships. And that is all. The errors in question prove nothing as to any doctrines that metaphysicists and theologians may be pleased to set up outside the experimental field.

517. *b.* (§ 483). Inquiries into virtual movements when the movements belong to the experimental field are just a way of considering experimental relations; and therefore what has been said above applies to them also. If some term towards which virtual movements tend lies outside the experimental field, we need not deal with it here, unless an attempt should be made to return to experience by eliminating that term; but in that case we should again be going back to relations between experimental facts.

518. *c.* (§ 483). There remains the inquiry as to what *ought* to be done, the *precept* (§§ 325 f.). This is a class of relations that may lie entirely beyond experience, even when the related terms are experimental. What takes it out of the experimental field is the term "ought," which does not correspond to any concrete reality.[1] The question may still be asked, "And if an individual does not do what it is said he *ought* to do, what will happen?" That question leads to a consideration of virtual movements (*b,* § 483).

519. *Nexuses by which elements in theories are combined* (second problem stated in § 467). Let us begin with a few examples.

There is the case of chemistry when the atomic theory was in full vigour. Chemists worked on certain hypotheses and succeeded in explaining the facts of chemistry that were known and in foreseeing facts that were unknown and which experience eventually verified.

518 [1] *Manuale,* Chap. I, §§ 39-40.

Such are all scientific theories, and they have unmistakable characteristics.

520. But here now, for another example, is one of the so-called moral theories. It is of an entirely different character. There is no trace of any experimental verification of any sort. People ask how things ought to be, and they conduct the inquiry in such a way as to find certain relations that exist, or which they would like to have exist, among things. Imagine a chemist saying: "It is a pity that when mercury protochloride is exposed to light it should change spontaneously into mercury bichloride, a virulent poison. I shall therefore look for a chemical theory that will render such a thing impossible." Yet there you would have a widely cultivated type of moral theory.

521. Even apart from that type the difference between theories that allow themselves to be guided strictly by the facts and theories that try to influence the facts, is striking. Compare, for example, the atomic theory of modern chemistry and the atomic theory of Lucretius. The difference lies more in the character of the researches than in the greater or lesser experimental validity of the data and the conclusions.

522. In former times theories of natural facts were like modern moral theories. Later on they changed completely in outlook and became our modern scientific theories. Aristotle's treatise *De coelo* may be classed with modern treatises on morals. It cannot be classed with Newton's *Principia,* much less with Laplace's *Traité de mécanique céleste.* Anyone willing to read those three books one after the other will observe at once that Aristotle's is altogether different from the others in character and in the purpose of the investigation. There is no seeking the cause of such a difference in the ability or scholarship of the respective authors. Newton wrote a commentary on the Apocalypse well worthy of a place beside Aristotle's *De coelo.*

523. If, therefore, we set out to arrange theories according to the character of their demonstrations, we have to distinguish two types. In one the nexus consists entirely of logical implications of facts; in the other there is an added something that transcends experience

—some concept of necessity, duty, or the like. Finally, to complete our survey, we must further consider propositions in which the logical nexus is reduced to little or nothing—which are mere descriptions or narrations. In that way we get the three following classes:

Class 1. Descriptive propositions (§ 525)

Class 2. Propositions asserting experimental uniformities (§ 526)

Class 3. Propositions that either add something to experimental uniformities, or ignore them (§ 574).

524. Scientific theories consist of propositions of the first and second classes. Sometimes propositions of the third class are appended; and they may do no harm provided the non-experimental adjunct be superfluous; but they may impair the scientific character of the theory if the non-experimental adjunct affects conclusions. Sociological theories and many economic theories have hitherto made liberal use of propositions of the third class so affecting results. Such propositions must be eliminated if we would have a sociology or an economics of a truly scientific character.

Suppose we now examine the logico-experimental sciences with reference to the classes just mentioned. Here, however, we have to deal with them only in a very incidental way, since our main interest is in theories dependent upon social facts.

525. Class 1: *Descriptive propositions. Examples:* "I tried to find the density of pure water under an atmospheric pressure of 760 mm. of mercury; and I observed a maximum density at 4°." "Roman marriage was between one man and one woman at a time." The description may be extended to any length one wishes; but when it becomes at all protracted there is a danger that propositions of another class will creep in. The human being finds it very difficult to stop at mere description; he is always tempted to add explanation. To say, "The Greeks were hospitable to beggars," is a description; but to say, "The Greeks were hospitable to beggars *because* they thought that beggars came from Zeus," adds an explanation to the description. We could get back to pure description by saying, "The Greeks were hospitable to beggars, and there were some who said

that they ought to be because beggars came from Zeus." The distinction may seem fine-spun, but it is a very helpful one; for slipping explanation covertly into description is a favourite device for obtaining acceptance for explanations devoid of a logico-experimental basis.[1]

526. Class 2: *Propositions asserting experimental uniformities.* In any statement of a uniformity there is something more than a description of happenings in the past; there is a forecast, more or less probable, of future happenings (§ 1068). If I say, "Under pressure of 760 mm. of mercury, water attains a maximum density at 4°," I say something more than I said in the description stated above (§ 525). I assert that if anyone puts water under those conditions he will observe a maximum density at 4°.

Note further that the last proposition contains a number of implicit assertions. It asserts that pressure and temperature are the sole determinants of density. If, for example, the electric tension of the atmosphere were also a determinant, the descriptive proposition would be *incomplete,* because I ought to have noted the atmospheric condition; but the proposition asserting the uniformity would be *false,* for if I were to make another experiment under different electrical conditions, I should not find the maximum density at 4°.

527. Suppose, instead of a hypothetical case, we take a real one. "I placed a thermometer in pure water, and I observed that the water began to solidify at 0°." My proposition is *incomplete.* I should have noted other circumstances—atmospheric pressure, for example. If I say, "Pure water solidifies at 0°," with no specifications as to other conditions, my proposition is *false.* James Thomson found that under a pressure of 16.8 atmospheres, pure water solidifies at a temperature of 0.129°. The proposition noted above, though false in the strictest sense, is customarily used by physicists because it is understood that the experiment is to be performed under the normal atmospheric pressure of 760 mm. of mercury and under other conditions well known to physicists. In that case there is no harm in

525 [1] This is not just the place to stop and consider how far the generic term "the Greeks" may be taken as exact.

such language; but if the conditions that are presumed are not accurately determined, if they are in the least respect uncertain, the proposition would have to be rejected. Of just such obscurities people avail themselves when they introduce conditions that cannot be taken for granted explicitly.

528. Metaphysicists imagine that experimental science deals with absolute propositions (§ 97), and on that hypothesis they reasonably conclude that in the statement, "Water solidifies at 0°," there must be something more than a mere epitome of experiments—there must be some principle of *necessity*. But that edifice crumbles—its foundations are weak. The scientific proposition, "Water solidifies at 0°," merely indicates that that fact has so far been observed and that *very probably* therefore it will be observed in the future (§ 97).

529. Someone might say: "That statement does not take into account the positions of the Sun and its planets in space. It is true that so far those conditions have not been known to influence the temperature at which water solidifies; but how can you be sure they will not do so in the future?" We can only say, "We are not sure." And we should have to give the same answer if someone were to assert that some day the Sun in its swift course will carry us into a four-dimensional space, or to a place where the laws of physics and chemistry will no longer hold. Every scientific proposition has to be understood as prefaced by the reservation "within the limits of time and space known to us." Beyond those limits lie probabilities, now slight probabilities, now great probabilities, but nothing more (§ 69-5).

530. It is laughable to reflect that though it is indispensable to state such reservations in sciences as advanced as chemistry and physics, there are people who think they are not necessary in a science as backward as sociology. But in any event we have no intention of quarrelling with them. Blessed indeed are they in knowing the essences of things (§ 19) and the necessary relations between facts. We, much more modest, are simply trying to discover such relations as experience discloses (§ 69-4); and if those good souls are right, it only means that we shall be discovering with great effort

and after laborious investigation things that were revealed to them by metaphysical enlightenment. If the relations they talk about are really *necessary,* we cannot possibly find different ones.

531. Metaphysicists are still maintaining that one well-conducted observation is enough to establish a uniformity in chemistry and physics, and that therefore what is needed is a "higher principle" enabling us to draw just that inference—which certainly does not owe its existence to any great number of facts, since it has been drawn from only one. They are entirely wrong. Those many other facts are there, and they are present in all other similar facts that have been previously observed. Why is just one chemical analysis sufficient to determine the proportions in which two elements are combined in a compound? Because that fact falls into a group of incalculably numerous facts that have permitted recognition of the uniformity (law) of definite proportions. Why is one accurate observation enough to establish the gestation period of a female mammal? Because that fact is one of a very large group of facts which show that the period is constant (§ 556).

532. For that reason when a fact is referred to the wrong group, the conclusion is false. If one infers from the fact that there is a male and a female Phylloxeron that all Phylloxera are born of males and females, so classing the Phylloxeron with cases of sexual generation, one's inference is mistaken, for the case happens to belong to a category where parthenogenesis occurs. There is no "higher principle" to guide us. There is nothing but experience; and it shows that along with cases of sexual generation among Phylloxera there are cases of parthenogenesis.

533. Among propositions asserting uniformities, some give experimental "explanations" of facts. The explanation consists solely in putting the fact that is to be "explained" in relation with other facts. So one science, to wit, thermodynamics, "explains" why there are bodies (such as water) where the melting point lowers as pressure increases, and others where it rises. Such an "explanation" amounts to nothing more than placing that property in the substance in question in a relationship of uniformity with other properties in the

same substance. Scientific explanations other than that do not exist.

534. It is inexact phrasing to say that celestial mechanics "explains" the movements of heavenly bodies by universal gravitation. Celestial mechanics has put forward the hypothesis that the movements of heavenly bodies satisfy the equations of dynamics; and down to our time the positions of heavenly bodies as calculated by dynamics have been the same, allowing for possible errors, as the positions obtained by observation. So long as that correspondence holds the hypothesis will be held sound. If it should fail to obtain some day, it will be modified.

535. What use can be made of facts in sociology, and how can uniformities be deduced from them? [1]

536. *Facts.* Facts are known through various sources that historical criticism sifts and appraises.[1] With the problems of historical criticism we are not called upon to deal specially here. We need concern ourselves merely with certain particular subjects that are of special importance to sociology.

537. *Numbers of facts.* It is evident that the greater the number of facts we have at our disposal, the better, and that perfection would be attained if all the facts of a given kind could be utilized. That, however, is altogether impossible, and therefore it is simply a question of a more or a less.

In assembling any great number of facts of a given variety two obstacles of differing nature are encountered. As regards antiquity, the sources yield facts in scant numbers. For modern times too many

535 [1] To find uniformities is really the purpose of this whole study; and step by step as we seek and find them we shall distinguish methods appropriate to the purpose from methods that are not. Actually, then, we might simply refer to the rest of these volumes as a whole. But it is helpful to have a general view of a subject and grasp it in its broad outlines. That is the purpose of the remarks following.

536 [1] De Morgan, *Les premières civilisations,* pp. 29-30: "The documents that constitute the foundations of history properly so called are of four different varieties: 1. Documents contemporary with events, inscriptions, coins, medallions, histories, annals, memoirs. 2. Archaeological documents, monuments, objects of one kind or another found on the ground or underground. 3. Narratives posterior to the events they describe. 4. Results of the various sciences . . . geology, zoology, botany, anthropology, ethnography, sociology, philology, which it is wise to supplement with data relating to industries, arts, commerce, scientific development, and so on."

are available to allow all to be sought out and quoted. To get them all together would in itself be a long and not very fruitful task. Then once they were assembled, no publisher could print the huge folios that would be required to hold them, and no reader would care to read them. What profit would there be in collecting all the accounts of all the strikes, big and little, that have occurred in all the countries of the world, and printing them in a large library of volumes?

Since records surviving from antiquity are relatively few, the modern custom is to quote all or nearly all writers who mention a given subject. That is well enough, and nothing else could be done, it would seem, in works of scholarship. That was more or less the method of the manual of Roman antiquities of Marquardt and Mommsen, of the dictionary of Greek and Roman antiquities of Daremberg and Saglio, and of other works of the kind. For the Middle Ages, the same may sometimes be done as regards literature proper; but many mediaeval sources still lie unpublished in European archives. For modern times materials are overabundant and no such thing is possible. A selection has to be made.[1]

537 [1] Critics at no great cost to themselves can always find some fact that has been omitted; and there are those who avail themselves of such omissions to condemn books which they could not by any means have written themselves. "You have omitted such and such a fact," they say, or, "You have used such and such an edition, and it is not the best." All that would be justifiable if the critic could add, "and the fact you omit is important for or against your theory," or, "The best reading of the best edition is equally important to you." Without that supplement the criticism is childish and betrays the mere fatuity of a pedant, sometimes well read, more often ignorant. That good soul M. Aulard, being too much in a hurry to find fault with Taine, had a comical adventure that reminds one of the proverb of the cat that, through too great haste, had blind kittens (see Cochin, *La crise de l'histoire révolutionnaire: Taine et M. Aulard*). Even as regards an insignificant detail deriving from Clement of Alexandria, Aulard's criticism is wholly wrong. Pareto, *"Un petit problème de philologie," Indépendance,* May 1, 1912: "After all, as regards the history of the French Revolution, it does not matter very much whether Taine gave an accurate or an inaccurate translation of a passage from Clement of Alexandria. M. Aulard could have overlooked the matter without the slightest embarrassment. But if he was bent on going into it, he should have done so with the time and attention required . . . and then he would have seen that the comparison drawn by Clement was exactly parallel with the comparison Taine wanted to draw, and so have abstained from a criticism destitute of any foundation." It is first-class comedy to catch M. Aulard condemning Taine for errors in

538. *Weight of facts.* The significance of facts is more important than their number. A single fact well observed and well described is of greater value than a very large number of facts carelessly observed and inadequately described.[1]

The pedantic custom of "complete bibliographies" has nowadays come into great vogue. A writer must quote all the writers who, well or badly, sensibly or stupidly, have touched on his subject.[2] As a rule he merely quotes them—he does not read, and much less master, them, and for the good reason—if for no other—that he would not have time for such a feat. But he transcribes the titles in an attractive index, and the more of them he gets in, the more he is admired by pedants and cephalopods. In determining the relations between facts or scientific laws, it would be better for him to master the principal authors and pay no attention to the others. Not even for knowing the history of a doctrine is it useful to read all the writers who have written on it; it is sufficient to centre on the chief types. It is laughable to see a person making a "complete bibliography" of the writers who have written on "income" and showing himself entirely ignorant of the phenomena known by that name and even more ignorant of their relations to other economic phenomena.

539. As usual, scholarship has gone to that extreme to avoid an-

transcription and making similar ones himself in quoting from Taine: *cf.* Taine's 10th ed., Vol. III, with Aulard's quotations: Taine, *tissus,* Aulard, *tissés;* Taine, *en chantant,* Aulard, *et chantant;* Taine, *et soulève,* Aulard, *il soulève.* Three errors in eleven lines! M. Aulard will say that they are insignificant, that they do not in any way change the meaning, that they do not affect his criticisms, that it is the part of a pedant to call attention to them. Excellent! That is just my point! And that is why I did not specify such errors in my review. But why did M. Aulard forget that golden rule and go carping at Taine? *Medice, cura te ipsum!*

538 [1] It is well known that in modern palaeography all manuscripts deriving from an archetype count as one only. The *Codex Ambrosianus* of Plautus, for instance, counts for more than all the other Plautan manuscripts.

538 [2] In *Indépendance,* Feb. 15, 1912 [wrong reference ?] Georges Sorel concludes the review of a book with a remark that applies to many similar cases: "This study, grounded on the strictest principles of the Sorbonne, and utilizing four hundred and twenty-two authors in its composition, affords an interesting example of the insignificance of the results that are achieved by the methods imparted by Lanson."

other, where it was a question of reasoning without giving facts. Of the two evils the lesser, and by far, is to give too many facts rather than none at all, and it is also better for the number of facts to be larger rather than smaller than is required for proof. Better even a "complete bibliography" of writers hastily read than complete ignorance of the literature of one's subject.

540. Leaving aside absolute certitude, which does not exist for the experimental sciences, and speaking only of greater or lesser probabilities, we have to recognize that for many historical facts such probability is slight, for others great, and for still others so great as to be equivalent to what in ordinary parlance is known as certainty. In that sense many facts are certain in general but uncertain in their details. It seems certain that the Battle of Salamis took place, but it is not at all certain that the details were just as Herodotus reports them. Indeed, to judge by analogy with other accounts of the kind, it is very probable that some of the details he gives are wrong. However, we do not know which. Even in times far closer to ours, it is "certain" that the Battle of Waterloo took place, but various details of it are still matters of dispute.

Following a method that will be explained in § 547, it is easy to see for oneself that when there are several accounts of a given episode, they often differ in particulars. In some of them it is possible to prove that particulars are wrong (§ 649), and any interpretation treating them as accurate would certainly lead to error. In that connexion, two pitfalls have to be avoided: on the one hand, the danger of basing theories primarily upon disputable facts—an error often made in investigations of origins; on the other hand, the temptation to reject any theory that is not supported by absolutely authenticated facts, as certain pedants nowadays seem inclined to do; on that basis all theories would be rejectable. We must find a just mean, framing our theories cautiously, sifting and selecting the facts and using them warily, always bearing in mind that the best of theories may show some small margin of error (§ 69[5]).

What is said above is nothing peculiar to sociology: it applies to all the sciences, even the most exact. In using a table of logarithms

to seven places one must know that beyond that point the logarithm cannot be guessed. Not so long ago the atomic weights of chemical elements were known only approximately. Now they are known with relative exactness, but absolute exactness we shall never have. From the days of Tycho Brahe down to our own, measurements of stellar distances have been brought closer and closer to perfection, but they were still very imperfect in Newton's time. Should scientists, on that account, have refrained from framing the theories of celestial mechanics, just to please a few pedants? Or indeed, to state the full truth, should they not rather forbear from theory now and forever? Absolutely exact measurements are not yet available, and they never will be.

We can go even farther. It was a fortunate circumstance for the foundation of celestial mechanics that in Kepler's time observations of the planet Mars were not very exact. If they had been he would not have detected an ellipse in the curve traversed by that planet and so would not have discovered the laws of planetary movement. It was also fortunate that he elected to study the movements of Mars rather than those of the Moon, which is subject to greater disturbances.[1]

540 [1] Bertrand, *Les fondateurs de l'astronomie moderne,* pp. 146-47: "Kepler was in a position to say, it is true, that an error of eight minutes was impossible on his part. That self-confidence saved the day. Had he been able to say as much of an error of eight seconds, all would have been lost. . . . Kepler was mistaken, in fact, in regarding the important advantage he had won over the rebellious and stubborn planet as one of those decisive victories that for ever end a struggle. Those great laws, eternally true [Bertrand might have dispensed with this discursion into metaphysics.] within reasonable limits, are not strictly mathematical. [They are a first approximation, the approximation of the elliptical movement so called.] Numberless perturbations are constantly deflecting Mars from his course, gradually freeing him from the frail bonds in which the fortunate astronomer thought he had shackled him for ever. For anyone going more deeply into the matter [Successive approximations], such irregularities once accounted for and become predictable bring a startling confirmation to the theory of attraction, which they enhance in importance in proportion as they make it clearer. But any premature acquaintance with them, which would necessarily have resulted from more accurate observations, would have wrapped the truth in unfathomable complications, and perhaps long have retarded progress in knowledge of the mechanics of the universe. For in that case Kepler would have had as good reason to reject the elliptical orbit as the circular orbit, and would have been forced to hunt for the laws of the irregular movement directly, at the risk of wearing out his stubborn patience and exhausting all his keen resourcefulness on insuperable obstacles." Whereas knowledge of the elliptical

What at that time was the work of chance must now be done by the method of successive approximations (§ 69-9). Every now and then the scientific theories of economics and sociology are challenged as disregarding certain particulars. That, instead, is a merit. One must first obtain a general concept of the thing one is studying, disregarding details, which for the moment are taken as perturbations; and then come to particulars afterwards, beginning with the more important and proceeding successively towards the less important.[2]

541. Suppose we have before us a text, or a number of texts, of a given writer. It (they) may be considered from three points of view: 1. As to what the writer thought, his psychic state, and how he came by it. 2. As to what he meant in a given passage. 3. As to how people of a given group at a given time have understood him. From the standpoint of the social equilibrium the importance of the queries increases from No. 1 to No. 3. From the objective standpoint No. 2 is virtually the only one to be considered, provided it be possible to establish a moderately exact relation between the writer's testimony and something objectively real. No. 1 is personal to the writer. No. 2 is impersonal, objective—the passage may be considered independently of the person who wrote it (§ 855). No. 3 relates to the writer's audience.

1. The ideas of a writer do not always present consistent unity,

movement led to the notion that the movements of the planets might be due to solar attraction. Then the theory of attraction was extended to the reciprocal influences of the planets upon each other and upon the Sun; and so the successive approximations of astrophysics were obtained.

540 [2] Deliberate disregard of certain particulars in a first approximation is oftentimes called an error, and those who make that criticism no more than confirm the old saw that "the silence that is golden never gets into lead." There are those who condemn one branch of social science for keeping distinct from other branches and imagine that to ignore one branch while dealing with another is to be either ignorant concerning it or neglectful of it (§ 33 f.). That criticism is different from the other, but it has an identical origin in a presumptuous ignorance of the character of scientific theories and the need of arriving at them by analysis. All the same, those good souls have to be thanked for not extending their censures beyond the limits of the social sciences. They might just as well censure an economist for not including cooking in his science, for cooking, as no one will deny, also contributes very considerably to joyous living (Pareto, *Cours,* §§ 2, 34).

not only because they vary with time, as may be seen in St. Augustine's *Retractationes* (*Opera,* Vol. I, p. 583) and other books of the kind, but also because in matters pertaining to sentiment an author may express differing and even contradictory ideas in the same text without being aware of it. When, therefore, one tries to ascertain his ideas on a certain matter, one may be looking for something that does not exist. Yet doing just that has now become the vogue. We have a pest of "psychological" studies of writers, which are, after all, mere collections of anecdotes and gossip serving as materials for the lectures and the light reading so especially dear to ladies of fashion who imagine that they are following the scientific movement in devouring them (§§ 858-59). It is also in style to wonder why a writer wrote what he wrote; and if one can somehow manage to discover that he wrote it in a moment of rage at a betrayal by a mistress, one thinks one has discovered America.

Beyond question, an author's views have some relation to the sentiments prevailing in the group in which he lives, and it is therefore possible, within certain limits, to gain from his views some light as to those sentiments, which, meantime, are elements in the social equilibrium. But it is curious that that is more especially the case with commonplace writers of mediocre talents than with eminent authors, those of great genius. The latter in virtue of their very qualities rise above the commonalty and stand apart from the mass of people. They therefore reflect less reliably the ideas, beliefs, and sentiments actually prevailing.[1]

2. When we know what a writer intended to say in a given text,

541 [1] Sorel well says in *"Quelques prétentions juives,"* pp. 217 f.: "Most often when we are trying to determine the historical rôle of a group of human beings, we study individuals to whom we think we can ascribe a capacity for representing, more or less perfectly, the spiritual force of the group at large; we note the sentiments, aspirations, philosophical conceptions, which those exceptional people have voiced. We construct from individual elements, in a word, that consciousness of rights and duties which according to our estimate prevailed in the group. Now and again historians have chosen to deceive themselves as to the reliability of the results obtained by that method, holding that 'representative men' are altogether determined by environment. Then again other writers, admiring the originality that not a few of such representative men evince, have seen creative geniuses in them. . . . Evidently, the truth lies somewhere between those two extreme views."

and provided we have reason to believe his testimony moderately veracious, we say that the text establishes certain facts. All documents called historical are substantially of that kind.

3. In addition to the facts usually made available in that way there are others which it is important for us to know. We have already seen, and we shall see more clearly as we go on, that the sentiments manifested in the beliefs and ideas of human beings are important factors in determining social phenomena; and it follows from this that sentiments and expressions of sentiments are "facts" as important for sociology as the "facts" that are actions. Even if the Battle of Marathon had never taken place, the conception the Athenians had of it remains a fact of great significance as regards the form of Athenian society. Thucydides, *Historiae,* I, 20, says that it is not true that, as the Athenian masses believed, Hipparchus was the tyrant when he was murdered by Harmodius and Aristogiton; but as regards the form of Athenian society the fact itself is less significant than the conception that the Athenian masses had of it. And among the forces exerting a powerful influence in determining that form was certainly the sentiment which found expression when the Athenians sang the praises of Harmodius and Aristogiton for killing the tyrant and making Athenians equals before the law.[2] So we arrive at the conclusion—it seems paradoxical but is not—that to understand the form of Athenian society it is much less important to know whether Hipparchus was really a tyrant, or even whether the whole story was not just a legend, than it is to know the ideas of the Athenians on the matter.

Does the famous oration on the war-dead of Athens that Thucydides puts into the mouth of Pericles repeat even approximately the words that Pericles actually delivered? We do not know, and for purposes of determining manners of feeling and thinking at Athens at the time, we little care. In all probability Thucydides

541 [2] Bergk, *Poetae lyrici Graeci,* Scolia, 9, 11, pp. 1019-20: "Mid branches of myrtle will I bear my sword even as Harmodius and Aristogiton when they slew the tyrant and made the Athenians equal before the law." "Mid branches of myrtle will I bear my sword, even as Harmodius and Aristogiton when they slew Hipparchus the tyrant at the Panathenaia."

wrote the oration in the spirit of the environment with which he was thoroughly familiar. It would be strange indeed that, inventing the oration out of whole cloth, he should have written it in such a way as to clash with attitudes with which his readers were as well acquainted as he (§ 243).

Nowadays there are people who say that Christ was a solar myth. Grant the point for the moment. Will the tremendous rôle played by Christianity, or rather by the sentiments manifested under Christian form in European society, be any the less important on that account? Sorel well says:[3] "As for the stigmata of St. Francis, we do not need to know just what those sores were like; but we do have to find out what conception the Middle Ages had of them. The conception was what influenced history, and that influence is independent of the physiological problem."

So, as regards a given country at a given period, the significance of what an author wrote lies not so much in what he meant as in what the people who read his book in that country at that time thought he meant.[4] There is a radical difference between a text considered as evidence of what a writer witnessed or thought—and used for the purposes of getting at the things he witnessed or thought—and a text considered as influencing its readers and used for purposes of determining the ideas and conduct of those individuals. When a text is considered from the biographical standpoint it is very important to know what the author intended to say. When a text is considered from the social standpoint such an inquiry is virtually irrelevant. The important thing is to know how the text was taken, even if it was taken upside down.

That point is not appreciated by people who think a text has an

541 [3] *Le système historique de Renan,* Vol. I, p. 37.

541 [4] Sorel, *"Quelques prétentions juives,"* p. 231: "Renan's judicious remarks are quite to the point here: 'In religious history, the significance of a text lies not in what the author meant but in what the requirements of the time made him mean. The religious history of mankind is a history of misunderstandings.' [And in a note he quotes Renan, *Histoire du peuple d'Israel,* Vol. IV, p. 193.] The remark also applies very well to secular history. The [German] Social Democracy has had to perform miracles of misinterpretation in order to pretend it was following Hegel" (§ 1101 [1]).

absolute meaning and has to be understood in its "true" meaning only. So they go hunting for that "true" meaning, and it turns out after all to be the one they like best—which gives them a chance to quarrel with anyone who does not see it as they see it.[5]

542. And in certain cases it is easier to know with certainty (very great probability) facts relating to expressions of thought than to know facts relating to conduct. There may, of course, be doubt as to the correctness of a text at our disposal; but once that doubt is removed, we have the fact itself before us and are not obliged to discuss it at second hand. Our knowledge of what Cicero says about Catiline is much more reliable than our knowledge of much of Catiline's conduct.

543. Literary compositions—works of the imagination, stories, legends, and the like—are generally of little value as sources for historical and geographical information. All the same, scarcity of documents sometimes forces us to depend on them for ancient times or for periods not extensively studied; but we must do so with great caution. To comprehend the situation more clearly, we might illustrate a method that we are to elaborate in § 547.

544. I have before me a short story by Alphonse Karr that contains allusions to Lausanne, Montreux, and Geneva.[1] Suppose we are faced by a problem such as ancient Greece presents to scholars of our day. Suppose some two thousand years hence Karr's story is the only surviving document in which Montreux is mentioned, and the scholars of that time are trying to ascertain the location of Montreux in respect to Lausanne and Geneva. Criticism shows that Karr is worthy of all confidence: he lived at a time when Montreux was still flourishing, and in a neighbouring country, France. Almost all wealthy and educated Frenchmen of his time made frequent

541 [5] Another point: Critical editions enable one to get back, with greater or lesser probability, to the archetype of manuscripts that have come down to us; but they cannot show the relations of the archetype to a writer's thought. We might not be able to get his thought altogether even if we had the original autograph. One need only think of what happens in our day of the printing-press. In reading proofs a writer often notices imperfections that escaped him when he was reading his original, especially if it has been dictated to someone else; and he makes changes in it.

544 [1] *"Pour ne pas être treize,"* pp. 8, 9, 78.

visits to Switzerland. It is very probable that Karr had personal knowledge of Montreux. He could have had, furthermore, no conceivable motive for concealing the truth. What he says may therefore be taken as the testimony of an eyewitness—better testimony than his could not be desired. A scholar ransacks libraries, studies, meditates, and he finds that one of Karr's characters passed through Montreux on his way from Lausanne to Geneva. Of course one has to be on one's guard against typographical errors—much like the miscopyings of scribes in the manuscripts of the old days. But no—that danger is dispelled by the author's own words: "I arrived at Montreux at about four o'clock. It is a village to the right of the highway bordering the lake as one comes in from Lausanne and stands some hundred paces back from the road. It is reached by a climb up over a narrow path that bristles with stones." No doubt therefore! It is really the road from Lausanne to Geneva, the road that has the lake to the left and the hills to the right as one comes in from Lausanne. Then comes another passage that confirms the others and dispels any suspicion of scribal error or textual interpolation. The same character in the story is returning from Geneva to Lausanne. "A half-hour later, the two friends departed for Lausanne. As they passed through Montreux, which stood on the height to the left, Eugène expressed a wish to go up to the village for a moment." Our future scholar will write a learned thesis, and deliver it before a society of scholars, showing that Montreux must have been located between Lausanne and Geneva; and who knows but what some archaeologist, following that lead, may even find the ruins of Montreux in the region so designated! And yet if one thing in this world is certain, it is that Montreux lies beyond Lausanne as one comes in from Geneva, and that in going from Lausanne to Geneva or returning from Geneva to Lausanne one does not pass Montreux.

Not a little of the information we have, or think we have, about antiquity has no firmer foundations than the inferences I have just drawn from Karr's story: and the certain error in his case shows the possibility of similar errors in classical scholarship.

545. Purely literary compositions, works of the imagination,

stories, legends, are often valuable sources for knowledge of sentiments; and oftentimes indirect testimony of that kind is worth more than any amount of direct testimony. In his *Mimiambi* Herondas gives a parody of a counsel's plea before an Athenian court. The orator says, in substance, that if his opponent has prevented a famine by bringing grain into the city (or else, if he, the orator, has not performed such a public service) the fact ought not to militate against him in the eyes of the judges.[1] It is evident from the passage that it must have been a common opinion that judges were influenced in their decisions by considerations of benevolence or malevolence of the kind mentioned, quite aside from the merits of a case—otherwise the parody would lose all meaning. Its testimony therefore is worth more than any number of direct assertions (§ 572).

So many novels record prevalent opinions, and the opinions often correspond to certain facts and give synthetic conceptions of them that are much more valuable than anything that might be had from any amount of miscellaneous direct testimony.[2] When a book has many readers, it is highly probable that it reflects their sentiments and may therefore prove helpful in discovering them.[3] However, one has to make haste very slowly along such a path, for if we are too facile with our interpretations we may fall into serious blunders.

546. *Interpretations.* For the very reason that first-hand knowledge of facts is rarely available, interpretations are indispensable, and any-

545 [1] *Mimiambi,* II, 16: "If, then, piloting a ship from Achaea, he brought grain and put an end to the fierce famine . . ." Variant rendering (by Blass): "If I have not, piloting a ship from Achaea, brought grain and put an end to the fierce famine . . ." (Knox: "Perhaps he will say to you: 'I have come from Acre with a cargo of wheat and stayed the accursed famine.' ")

545 [2] Zola's *L'argent,* for example, gives a fairly accurate synthetic conception of life at the Paris stock exchange in the days of the Union Générale. Maupassant's *Bel Ami* gives a picture hard to match of the financial speculations of the politicians at the time of the occupation of Tunis by France, and of the part played by the press in those intrigues. Similar phenomena were observable later on at the time of the conflict between France and Morocco, following the Agadir affair.

545 [3] In great vogue towards the end of the eighteenth century in nearly all civilized countries, and in France in particular, was the doctrine that accounts all conduct logical and every non-logical action a "prejudice." The spread of the doc-

one resolved to do absolutely without them might as well not bother with history and sociology. But it is important to decide when, how, and to what extent they may, with a fair degree of probability, be trusted. That question, like all questions in the experimental sciences, has to be answered on the basis of experience.

547. There is one method that gives good results in many cases. Let *A* stand for a fact of the past. We do not know the "explanation" of it. So we find one—that is to say, we establish a relation between *A* and another fact *B,* by way of a certain interpretation. Now we have to ascertain whether the interpretation leads to plausible re-

trine may readily be judged from the fact that it affected even light literature—love-stories. For example, the younger Crébillon, *La nuit et le moment,* pp. 19-21:

"*Cidalise:* Truly now, Clitandre—you do not love Araminte? . . . (*Clitandre shrugs his shoulders.*) All the same—you have had her!

"*Clitandre:* Oh, that's different!

"*Cidalise:* So they say! It does seem to be different these days.

"*Clitandre:* Not just these days! The old days too!

"*Cidalise:* You astonish me! I thought this modern philosophy had changed all that.

"*Clitandre:* Well, I think myself that in such matters, as in many others, it has improved our thinking, but less by changing the things we do than by giving us a clearer understanding of why we do them. Now we seem not to be acting so much by chance. Before we learned to reason so well, we used to do the very things we do today; but we did them under stress of temptation, without knowing what we were doing, and with all the qualms of conscience that prejudice inspired in us. We were not any more virtuous than we are today, but we wanted to seem so, and there is no doubt at all that in those days a ridiculous prejudice spoiled many a good time. But at last we have been lucky enough to see the truth [Milord True and Milady Truth are the great divinities of emancipated religions.], and what a relief it is! Women have never been so care-free in society. There has never been so little affectation of virtue. You like her? Well, you take her—and she you! You are bored? You separate with as little ado as you began! You are right in saying that love figures very little in all that. But what was love but a desire that people chose to exaggerate in importance in their own minds—a sensuous impulse that they had been silly enough to represent as a virtue? [Less frivolous writers had said the same of the religious and other instincts.] Now we have come to see that pleasure is the only thing . . . and I take it that on the whole it has proved the height of wisdom to substitute so many pleasures for a few outworn prejudices that net very little esteem and a great deal of annoyance [for] those who take them as their rule of life." For a good understanding of the French Revolution such a passage is worth more than no end of direct description. Victor Hugo's *Les Misérables,* combined with, let us say, the novels of George Sand, gives a clear and exact conception of the epidemic of humanitarianism that swept all civilized countries during the nineteenth century.

sults. So if we can find in the present a fact *a* similar to *A,* connected in a manner well known with another fact *b,* also well known and similar to *B,* we use the parallel to "explain" *a.* If we do find the actual "explanation" *b,* the result is favourable to our method, and if we can find numerous examples, we may conclude that it gives fairly probable results. But if in trying to explain *a* we do not find *b,* that fact warrants suspicion of our method—there is one exception, there may be others. If we find even relatively few exceptions, little probability remains.[1]

548. In general the unknown has to be explained by the known, and the past is therefore better explained by the present than the present is by the past, though the latter method was followed by the majority of writers in the beginnings of sociology and is still followed by many (§ 571).

549. A certain amount of interpretation is nearly always necessary. A person reporting a fact does so in his own language, adding little or much to it from his own sentiments. To get at the fact we have to divest what he says of such accessories. That will be sometimes easy, sometimes difficult; but we must never forget the necessity, or at least the utility, of doing it. Travellers translate the notions they hear expressed in the languages of the countries they visit into words and ideas of their own. Their accounts oftentimes are now more, now less, at variance with the facts; and it is necessary, when such a

547 [1] We shall make frequent use of this method in the course of this work, so that we may here dispense with giving examples. We have already made some use of it, however, in § 544. We used it also, implicitly, in investigating the relations of the metaphysical method to experimental facts. Can that method lead, or can it not, to results verifiable by experience? Suppose we apply it to cases such as physics, celestial mechanics, or chemistry, where the experimental results are well known—or better yet, suppose we let Hegel do the applying, since he is so much admired by metaphysicists. If the metaphysical method leads to conclusions that are corroborated by long experience in those sciences, we shall have reasons for hoping that it will prove equally successful in other connexions—in social science, for instance, where experimental verifications are less practicable. If on the other hand, in physics, celestial mechanics, chemistry, it leads to conclusions that experience proves to be senseless, fantastic, idiotic, we shall have reasons for fearing that it will yield no better results in the social or historical sciences (§§ 484 f., 502 f., 514 [2]).

thing is possible, to retranslate in the inverse direction to get at the real states of mind of the people the traveller is describing.[1]

550. Similarly, it is in many cases unsatisfactory to get facts for sociology from translations, and if possible one should refer to the original texts. As usual, one need not go from one extreme to another. There are cases in which, let alone a translation, even a mere abstract is sufficient. It all depends on whether conclusions are based on the exact meaning of one or more terms; if they are, reference to originals is indispensable.[1]

549 [1] Reviewing Junod's *The Life of a South African Tribe,* Vol. I, *Social Life,* in the *Journal de Genève,* Aug. 25, 1912, the distinguished Egyptologist Édouard Naville writes: "One of the aspects of M. Junod's book that may prove most useful to students of very ancient philology is language. Primitive peoples almost always express themselves through metaphor. Anything even distantly approximating the abstract has to be rendered by something susceptible of sense-perception. On the other hand some altogether crude or commonplace act may be designated by the religious or ritualistic significance attached to it. Anyone not holding the key to such riddles is in danger of going completely wrong in his interpretations of words or phrases. I note, for instance, a custom that has also been observed in Egypt—the burial of broken vases or other objects with bodies in tombs. The Bantus do the same. On the grave of a man who has died they break all objects of no further value that belonged to him—old pottery, especially, and the handles of *zagaïes*. Everything his must die with him. That ceremony is called 'showing one's anger to the dead.' Now if we found such an expression as 'to show one's anger to the dead' in an Egyptian or Assyrian document, I doubt very much whether the most learned philologist would ever guess its true meaning: 'to break a dish.' I am afraid that, unfortunately, our translations may contain serious errors due to such ignorance. I believe that it is owing to such mistakes that many Egyptian texts, such as those in the Pyramids or the *Book of the Dead,* seem often so strange and so childish. We have not found the key to the metaphors that abound, especially in religious language. M. Junod's book is packed with such expressions. There are some on every page. I will mention two: 'to eat oxen' means to accept the purchase price, the *lobola,* of a wife, who may be bought for two, three, or even ten such animals. 'To eat two herds' is a legal term for wrongfully charging two *lobola.*"

550 [1] I have been very cautious in these volumes in quoting from languages I do not know. Such, for example, would be the case with the Talmud; though I hope the translations that I have used reproduce the text at least approximately. In any event, I refrain from any conclusion that might depend too much upon the strict meaning of some term. It would be very useful if some person who knows the oriental languages, Arabic, Sanskrit, Chinese, Japanese, and so on, would publish *literal* translations with philological notes of passages of texts serviceable to sociology. Until that is done, we shall have to feel our way along in the use we make of documents in those languages. Sumner Maine, *Early History of Institutions.*

551. The more important difficulties in understanding facts from other periods of history or other peoples arise from our coming to them with the mental habits of our own countries and our own times. We live, for instance, in countries and times in which there are written laws with a public authority to enforce them. It is hard for us, therefore, to understand the conditions prevailing among peoples who have not laws like ours, but unwritten customs with no public authority to enforce their observance.[1] By the very nature

pp. 8-9: "There is, however, another more permanent and more serious cause of embarrassment in drawing conclusions from these [old Irish] laws. Until comparatively lately they were practically unintelligible; and they were restored to knowledge by the original translators. . . . The translations have been carefully revised by the learned editor of the Irish text; but it is probable that several generations of Celtic scholars will have had to interchange criticisms on the language of the laws before the reader who approaches them without any pretension to Celtic scholarship can be quite sure that he has the exact meaning of every passage before him. . . . In what follows I attempt to draw inferences only when the meaning and drift of the text seem reasonably certain, and I have avoided some promising lines of enquiry which would lead us through passages of doubtful signification." [One might note, à propos of this passage, that in actual practice, Pareto used translations very much as he found them, and, in the cases of the modern languages, they were as often erroneous as not. Even a writer in his own language, Casati, he quotes in a garbled French translation. In the days when these volumes were in formation, scientific philology and textual criticism, as represented by the schools of Paul Meyer, Lanson and Bédier, were enjoying a virtual primacy in European university life. Pareto's efforts at textual criticism, especially in the classics, were made largely in deference to philological eminences which everyone, to use a phrase of Casanova, was ready to concede rather than go to the trouble of reading their books to see if their reputations were deserved. Pious enough in their intentions, those efforts were rarely prosecuted to decisive results and they remain, in the *Trattato* as well as in the *Cours* and the *Manuale,* as somewhat of a pedantic pose. This is said in no spirit of irreverence for Pareto's truly exceptional and marvellously assimilated culture, especially in the classical literatures, but just to keep certain aspects of this work in the light in which they belong.—A. L.]

551 [1] Maine, *Ibid.,* p. 286: "The learned Editors of the various Introductions prefixed to the official publications of Ancient Irish Law are plainly of opinion that such jurisdiction as any Irish Courts possessed was, to use the technical phrase, voluntary. The Law of Distress, in this view, was clearly enough conceived by the Brehon lawyers, but it depended for the practical obedience which it obtained on the aid of public opinion and of popular respect for a professional caste. . . . (pp. 38-39) Now, the want of a sanction is occasionally one of the greatest difficulties in understanding the Brehon law. Suppose a man disobeyed the rule or resisted its application, what would happen? The learned writer of one of the modern prefaces prefixed to the Third Volume of the Ancient Laws contends that the administration of the Brehon system consisted in references to arbitration; and I certainly

of their work scholars live partly in the past, their minds gradually acquire some of the habits of those periods, and so they are better able to understand the facts than people without that advantage. In our time, likewise, in certain cases there is a complete separation between fact and law—between, for instance, the fact of ownership and property right. There have been peoples and periods where fact and law in ownership were one and the same. In course of time the two were gradually divorced by a slow process of evolution, and now we find it difficult to picture one of the intermediary stages clearly to ourselves.

552. But all that is insignificant as compared with the difficulties arising from intrusions of sentiments, aspirations, interests, and non-experimental entities of a metaphysical or theological character. The fact, indeed, that we simply must not rest satisfied with the appearances, often very misleading, that such things give to facts, but must get back somehow to facts themselves, is what is guiding us in these volumes and constraining us to follow such a long and fatiguing road.

553. *Probability of conclusions.* Here we are called upon to find a solution for a problem of the kind solved by the calculus of probabilities, under the name of *probabilities of causes.* Take, for example, an urn containing a hundred balls, some of which are white, the others black—we do not know in what proportions, but we do know that all proportions are *a priori* equally probable. We draw a white ball. We are thereupon certain that all the balls are not black, but that all combinations allowing at least one white ball are possible. The probability that all the balls are white is 2/101—very small, therefore. The probability that the white balls may number at least

think myself that, so far as the system is known, it points to that conclusion. The one object of the Brehons was to force the disputants to refer their quarrels to a Brehon, or to some person in authority advised by a Brehon." *Idem, Ancient Law,* pp. 7-8: "It is certain that, in the infancy of mankind, no sort of legislature, not even a distinct author of law, is contemplated or conceived of. Law has scarcely reached the footing of custom; it is rather a habit. . . . It is of course extremely difficult for us to realise a view so far removed from us in point both of time and of association."

fifty is 765/1010—about three to one, that is. Now let us assume that according to some hypothetical law all the balls should be white. The drawing of a white ball corroborates the law in one instance. That verification gives the law a very small probability—about .02. The probability that the law will be verified more often than not is not very great either, being only about three to one.

554. When the calculus of probabilities first began to be studied, there was hope that it might yield exact formulae for finding probabilities of causes. The hope proved groundless because we have no means of establishing any likeness between practical cases and drawings of one or more balls from an urn. We have no knowledge whatever as to the number of balls in the urn, and little or none as to the *a priori* probabilities of the various combinations. Any help we might have hoped for from the calculus of probabilities fails, therefore; and we are reduced to evaluating probabilities approximately in other ways.

555. An extreme case would be the law of chemical combinations (§ 531). In that case we have an urn that very probably contains balls all of one colour. A single drawing is enough to determine the colour with great probability. We know, for instance, that all elements very probably combine in definite proportions (the proportion would be the colour, in the case of the balls). One experiment is enough to determine the proportion—one drawing, that is, to determine the colour (§§ 97, 531).

556. When a fact, *A*, can be classed with other facts, it is *a priori* probable that it follows the laws they follow. A single verification therefore yields a high probability that that is so (§ 531). The method, in other words, is first to observe similarities—then to verify. That is one of the methods most generally used for discovering experimental laws. Just so Newton, by way of hypothesis, extended to the heavenly bodies the laws of motion established for terrestrial bodies. He then verified the assumption on the movements of the Moon around the Earth, and so discovered the law for celestial bodies. His successors continued making verifications, all with good

results. Now, therefore, his laws have a very high degree of probability.

Modern etymologists were able to observe in the fact the successive changes in a Vulgar Latin word that had developed into a modern French or Italian word. On the principle of *assimilation* (similitude) they extended the supposed laws they had discovered to other words, made verifications, and so constituted the science of Romance phonology.

The difficulty lies in establishing likenesses, because there is always something more or less arbitrary about them. In this as in other matters we have to appeal to observation and experience, which alone can yield trustworthy data. One of the characteristic errors of ancient writers was to infer similarities in things from similarities in names.

557. The principle of assimilation may yield apparently paradoxical solutions to some problems. Here is one such. Says Bertrand:[1] "Does not an uncertain event always have a definite probability, known or unknown?—By no means! What is the probability that it will rain tomorrow? There is none. . . . The King of Siam is forty years old: what is the probability that he will be living ten years hence? It is different for me than for someone who has talked with his physician, different for the physician than for someone who has received his personal confidences." Bertrand's inference would be that a person betting on the death of the King of Siam within the year would in no way be guided by probabilities, since none exist; and that is correct up to a certain point. In fact to issue an insurance policy on the life of one person alone would simply be gambling; but to issue insurance, as insurance companies do, on large numbers of people is to base a financial operation on the laws of probabilities. It may very well be that keeping to strict probabilities nothing can be decided as to the King of Siam. However, supposing Bertrand found himself behind the bars and were told: "You will not get out till either *A* or *B* dies. *A* is twenty years old, *B* sixty. Choose the man upon whose death you will have your liberty depend." We may guess that

557 [1] *Calcul des probabilités*, pp. 90 f.

Bertrand would choose B rather than A. Ought we say that he is choosing by chance, disregarding probabilities? In general if a happening P, assumed to be recurrent, is more probable than Q, shall we say that we are acting haphazard if, in the light of an interest, we elect a particular P in preference to a Q? Bertrand would say yes, because we are making but one choice and cannot have another chance. "Whether the King of Siam live or die, you have but one bet." But we can have other chances on other men of the age of the King of Siam, or on other similar cases of eventual happenings.

Let us assume that P_1 and Q_1, P_2 and Q_2, P_3 and Q_3 . . . are entirely different happenings, but that $P_1\ P_2$ . . . are alike in the one respect that they have a greater probability than $Q_1\ Q_2$ . . . on the assumption that the test may be repeated. I may now state the problem: In case I have only one choice between P_1 and Q_1, between P_2 and Q_2, have I a greater probability of winning by choosing $P_1\ P_2$ . . . or $Q_1\ Q_2$ . . . ? The answer is not doubtful: It is better to choose $P_1\ P_2$. . . . Of course Bertrand might perhaps have done better by staking his release on the death of the twenty-year-older. All the same, if he did that in all similar situations, if in every act of his life he selected the less probable outcome as the more favourable, in cases where the test might be repeated, he would end by doing worse than he would have done by choosing the more probable outcome.

Bertrand solves the problem differently. For him there are objective probabilities and subjective probabilities. The type of the objective would be an urn containing known numbers of black and white balls, from which one ball is to be drawn at a time. The type of the subjective would be an event such as the death of the King of Siam, which depends upon circumstances only partially known. Bertrand bars subjective probabilities from his calculations.

558. That would amount to saying that it is just as well never to bother with probabilities and to act blindly in any event; for all probabilities are subjective, and the distinction that Bertrand would draw holds only as between a greater or a lesser amount of knowledge.

Says Bertrand, p. 90, "It will or will not rain [tomorrow]; one of the two events is certain right *here and now,* and the other impossible. The physical forces on which rain depends are as rigidly determined and are subject to laws as inflexible as the laws governing the planets. Would one dare inquire as to the probability of there being an eclipse of the Moon next month?" [1] Well—the same thing might be said of the drawing of a ball from an urn. The movements of the drawer are no less determined than the movements of the stars. The only difference is that we know how to calculate the latter but not the former. The regularity of certain movements depends upon the number of forces operating and the manner of their operation; and what we call manifestations of chance are the manifestations of numerous effects that are interwoven one with another. Bertrand himself gives the proof for that, p. xxiv: "The stamp of chance [That expression is wholly wanting in exactness.] is often imprinted, sometimes very curiously, on numbers that are inferred from the most rigorous laws. A table of logarithms is a case in point. For the 10,000 successive numbers in Vega's ten-place tables, I take the seventh figure in the logarithm. In this choice nothing is left to chance. Algebra governs everything; an inflexible law shackles all the figures. Nevertheless if one computes chances one should get, approximately, out of the 10,000 figures, the figure 0 1,000 times, the figure 1 1,000 times, and so for the rest of them: the formula conforms to the laws of chance [Interaction of causes]. Verification made, the seventh figure of the 10,000 logarithms was found 990 times to be 0; 997 times to be 1; 993 times to be 2; 1,012 times to be 4." However, that would not happen for the last figures of a table of squares, which not only bar certain numbers but also succeed each other in a definite order—the following: 0, 1, 4, 9, 6, 5, 6, 9, 4, 1. The eclipse of the Moon, which Bertrand mentions, may be compared to this latter case—the determination of the last figure

558 [1] And why not? Two men have no almanacs or calendars handy. One says to the other: "If it rains next month, you will give me ten dollars. If there is an eclipse of the Moon, I will give you ten." No one would accept such a wager; because *ordinarily* in our parts of the world it is more probable that it will rain during a certain month than that there will be an eclipse of the Moon.

in squares; but the comparison holds only if the person who is trying to forecast the eclipse is adequately equipped in astronomy. If he is not, the eclipse of the Moon is a fortuitous happening the uniformities of which he does not know. Drawing a ball from an urn may be compared to the first case, the seventh figure in Vega's logarithms; but naturally, only for a person who has a fairly advanced knowledge of mathematics. A person who does not know what logarithms and squares are can foresee nothing.

559. If a fact is certain (very probable) and is described with very great exactness, a theory developed with rigorous logic from it is also certain (has very great probability). Oftentimes the facts that sociology has to use have no high degree of probability and are, especially, not exact. Hence even though a rigorous logic be followed, a theory based on a single fact is not very probable; and it is even less so when strict logic gives way to inductions in which sentiments, "good sense," customary maxims, and the like, play a part. The remedy is to eliminate such inductions as far as possible, and then to consider not one but as many facts as possible—always judiciously, of course, as we have so many times cautioned (§§ 538 f.).

560. To increase probabilities nothing is quite so effective as the ability to make direct verification—experience in the strict sense of experiment. That is the chief reason why the laws of chemistry and physics, and even of astronomy, are overwhelmingly probable. For astronomy the experience lies in the verification of the actual location of the stars in the positions assigned them by theory. To a lesser but still very considerable degree, the probability of laws not susceptible of verification is enhanced if it can be shown that they are at least similar to other laws of which verifications occur.

561. The number of persons from ancient times down to our own who have asserted that they have seen ghosts is enormous. If probabilities increased with the mere number of observations, the existence of ghosts would have to be considered highly probable. Yet few people now believe in them. And why not? We must not answer the query by referring to alleged natural laws that would be violated by the existence of ghosts. That would be reasoning in a circle.

If the existence of ghosts could be proved, the laws would no longer stand. Nor can we say that apparitions are to be denied because they cannot be "explained." People who believe in ghosts or in other things just as mysterious can make the excellent rejoinder that neither can light (or electricity or magnetism) be "explained." Yet that in no way affects the reality of the facts that are assumed to prove their existence. The reality of a fact does not depend on the "explanation" that may be given of it.[1]

562. There are two cogent reasons why we do not believe (why we find very scant probability) in the existence of ghosts:

1. Direct experiment very frequently fails. If a person does not believe in wireless telegraphy, he need only purchase a little apparatus—they are for sale even in toy-shops—and he will see the thing take place before his eyes. There is no reason, therefore, for his believing in it in advance. But if he wants to see a ghost, conjure up the Devil, or make some other experiment of that nature, he will succeed or fail according to the state of mind he is in. "Out with unbelievers!" cries thaumaturgy. "Look, ye unbelievers!" says logico-experimental science.

2. There is no group of experimental facts with which apparitions can be identified. If, for example, it were experimentally shown that the Devil can be conjured up, there would be a certain probability in favour of ghosts, and *vice versa*. But unfortunately none of the categories of the ghost variety are susceptible of experimental verifications; so, for the present, the existence of ghosts has a probability that is exceedingly scant.

563. Following Newman, who was a cardinal of the Church, many authors have attached a great deal of importance to the cumulation of great numbers of independent slight probabilities as productive of a conviction of high probability.[1] There is some truth in

561 [1] The terms "explain" and "explanation" are here taken as indicating the *cause, origin, law* of a thing. If, as sometimes happens, by "explain" or "explanation" we mean relating a fact to other similar facts, we should not be in the situation here in question, but in the case examined in §§ 556-58.

563 [1] Newman, *An Essay in Aid of a Grammar of Assent,* p. 288 (quoted by Mansion, *Calcul des probabilités,* p. 77): "It is plain that formal logical sequence

that. That is the advantage of basing a theory on many different facts. But it is also partly false, in that it does not take account of the cogent persuasiveness of the mere possibility of making verifications.

564. Newman thinks that an Englishman believes his country an island simply because of a cumulation of little probabilities.[1] No, there is a more cogent reason, to wit, the *possibility* of a verification. It is not imperative that the person who believes England is an island should have made the verification himself, nor that he should know someone who had. The possibility of making one is enough, for then one could reason in this fashion: "What a reputation a man could make by proving that England is not an island! How much money that news would bring him! If no one has ever done such a

is not in fact the method by which we are enabled to become certain of what is concrete [So far Newman is in accord with experimental science in the sense that experimental premises are necessary. Logic of itslf gives nothing.]; and it is equally plain, from what has been already suggested, what the real and necessary method is. It is the cumulation of probabilities, independent of each other [There is much truth in that.], arising out of the nature and circumstances of the particular case which is under review [And the nature of our researches, experiments, and observations.]; probabilities too fine to avail separately, too subtle and circuitous to be convertible into syllogisms, too numerous and various for such conversion, even were they convertible" [That is true in some cases, untrue in others].

564 [1] *Ibid.*, pp. 294-96 (Mansion, *Op. cit.*, p. 79): "We are all absolutely certain beyond the possibility of doubt, that Great Britain is an island. We give to that proposition our deliberate and unconditional adhesion. . . . We have no fear of any geographical discovery which may reverse our belief. . . . Yet are the arguments producible for it (to use the common expression) in black and white commensurate with this overpowering certitude about it? Our reasons for believing that we are circumnavigable are such as these:—first, we have been so taught in our childhood, and it is so in all maps; next, we have never heard it contradicted or questioned. [He should have added: "yet the doubt was permissible by law and by custom."] . . . However, negative arguments and circumstantial evidence are not all, in such a matter, which we have a right to require. They are not the highest kind of proof possible. Those who have circumnavigated the island have a right to be certain: have we ever ourselves even fallen in with anyone who has? [An argument of scant value. The things we know directly or by direct testimony are very few as compared with the things we know indirectly.] . . . I am not at all insinuating that we are not rational in our certitude; I only mean that we cannot analyze a proof satisfactorily, the result of which good sense actually guarantees to us." [The French translator, P. Mansion, rendered "satisfactorily" by *manière complète*. Pareto: "And what can ever be done completely?"—A. L.]

thing, it is reasonably safe to conclude that it cannot be done." Suppose a prize of $10,000,000 has been offered to the man who could find a wolf on the Isle of Wight and that during the last hundred years no one has won the prize. That alone, and without any cumulation of scant probabilities, would convince one offhand that there were no wolves on the Isle of Wight. Suppose, on the other hand, the death-penalty awaited a man who said that England was an island or made any investigation in that direction. All of Newman's little probabilities would not dispel the doubt as to whether England were really an island.

565. Newman's followers have a purpose. They are trying in that indirect way to build up a case for the truth of historical traditions, and especially of religious traditions. But belief in such traditions is in no way similar to belief that England is an island. The traditions have no possibility of verification. The other thesis has. It has been known for centuries that England is an island, whereas a hundred and fifty years ago many things in Roman history were considered true that are now considered mere legend; and if the conclusions of Ettore Pais, the Italian scholar, are sound, we shall have to drop many other things from Roman history.

566. In finding out what Roman customs were like no cumulation of little probabilities, however large, is worth one relic discovered at Pompeii that anyone can see with his own eyes and make sure of.

567. According to Thucydides many Athenians were wrong as to the murder of Hipparchus (§ 541). Who could say how many other cases of the kind there must be, how many historical fictions we accept as true? But there is no such doubt as to the existence of the United States, even for people who have never been there and do not know anyone who has—there is always the *possibility* of verification. That is enough, considering the great profit there would be in proving the common belief mistaken.

568. From that it follows that before a theory can be considered true, it is virtually indispensable that there be perfect freedom to impugn it. Any limitation, even indirect and however remote, im-

posed on anyone choosing to contradict it is enough to cast suspicion upon it. Hence freedom to express one's thought, even counter to the opinion of the majority or of all, even when it offends the sentiments of the few or of the many, even when it is generally reputed absurd or criminal, always proves favourable to the discovery of objective truth (accord of theory with fact). But that does not prove that such liberty is always favourable to good order in a society or to the advancement of political and economic prosperity and the like. It may or may not be, according to the case; and that is a problem we still have to go into.

569. As far as establishing the experimental truth of a doctrine is concerned, there is no difference between the direct enforcement of acceptance of such a doctrine and the enforced acceptance of certain principles from which the doctrine follows. A constituted authority requires you to believe that 20 is equal to 24. Another comes along and says: "I am much more 'liberal'; I merely ask you to believe that 5 is equal to 6." It amounts to the same thing, for if 5 equals 6, two equal numbers multiplied by the same number giving equal products, it follows that the products of 5 and 6 multiplied by 4 are equal, and 20 therefore is equal to 24.

570. From the standpoint of scientific freedom, accordingly, Catholicism, which enforces acceptance of doctrine directly, and Protestantism, which requires merely that it be derived from Scripture, have the same value. "Liberal Protestantism" nowadays believes that it has taken a step in the direction of scientific freedom by dispensing with belief in the divine inspiration of Scripture; but it still clings to belief in a certain ideal of perfection, and that is enough to keep us out of the logico-experimental field. Nor can an exception be made for humanitarian dogmas, nor for the dogmas of the sex religion so dear to Senator Bérenger and other geniuses of the same magnitude. Let us keep the point strictly before us: There is no scientific liberty unless everything is open to doubt—even Euclid's geometry and three-dimensional space. It is ridiculous to say that one is disposed to grant liberty for "truth" but not liberty for "error"; for the point at issue is none other than to discover where the "truth"

lies and where the "error"; and it cannot be settled if "error" cannot be defended by every possible reason that can be advanced in its favour. Only after such reasons have been validly refuted is judgment of error affirmed—pending further investigation. Many people fail to understand that, because in judging of truth or error they substitute a criterion of sentiment for the logico-experimental criterion.

571. The possibility of direct verifications, of new observations, is another reason for explaining facts of the past with facts of the present, which we are able to observe at our leisure (§ 548).

572. Take, for example, the following thesis: "In Athens political considerations and interests exerted a powerful influence upon judges in private litigations" (§ 545). We have direct proofs in the few pleas of counsel that have come down to us. Probability that the thesis is sound is increased by certain indirect evidence, such as allusions by Aristophanes (*Wasps*), and Herondas (§ 545[1]). But it increases enormously in view of similar things going on in our day in Italy and France. If a person is still in doubt, he may, in a certain sense, make experiments. He can read the newspapers carefully and note cases in which such influence appears. He will find a goodly number of them every year and also see that for one reason or another not all of them get into the papers. He can then question people experienced in such matters and so placed as to be willing to tell the truth; and in that way, his direct induction will be confirmed by an indirect method.

573. Another example: There are those who say that witnesses in ages past to miracles or other supernatural happenings testified in bad faith. But what is the situation in our own time? Let us make an experiment! It will not be difficult to find among our acquaintances persons whom we know to be altogether honest yet who none the less assert that they have been in communication with spirits. Our age is sceptical. Past ages were credulous. The same thing must therefore have been the case, and even more easily, in the past.

574. Class 3 (as outlined in § 523): *Propositions that either add something to experimental uniformities or ignore them.* The problem is to determine the manner in which non-experimental prin-

ciples influence theories, which, therefore, considered from the objective standpoint belong to Class II (§ 13). It is helpful to distinguish the case *A,* in which the introduction of non-experimental elements is explicit, from the case *B,* in which they are merely implicit. We are thinking of principal elements, of course. In concrete cases there may be a mixture of experimental and non-experimental elements. Just here we are considering cases where something is added to experimental uniformities, or where they are ignored.[1] *Authority,* for example, is here considered from the standpoint of what it adds to experimental uniformities.[2] The same may be said of *universal consensus,* the consensus of the majority, of the best-qualified individuals, and so on.

575. Under the aspect which we are now considering, we may classify types in the following manner:

TYPES OF CLASS 3

A. The abstract entities are explicitly introduced and are known independently of experience. Such knowledge is superior to experimental knowledge (§§ 576-632)

A-α. Experience is given little or no place (§§ 582-612)

A-α1. Authority: divine authority, known through one or more individuals; authority of one or more individuals (§§ 583-90)

A-α2. Consensus of a number of individuals who are counted or weighed, or of mind in the abstract ("the mind") (§§ 591-612)

A-β. Abstractions and principles determined independently of experience are incidentally and secondarily supported by experience (§§ 613-30)

A-γ. Great importance is attached to experience, or there is a

574 [1] We shall meet with some of these types again in Chapters IX and X, and there examine the methods whereby, quite apart from logico-experimental inferences, certain conclusions are arrived at (§ 1397).

574 [2] In Chapters IX and X we shall consider the use that is made of authority in forcing acceptance of certain conclusions.

pretence of doing so. However, it is always in a subordinate rôle (§§ 631-32)

B. The extra-experimental origin of the abstract entities that are introduced is not explicitly stated. Either they are mere abstractions arbitrarily deduced from experience, or else they have an independent existence that implicitly may be non-experimental (§§ 641-796)

B-α. Myths, religious narratives, and other legends of the kind are historically real (§§ 643-61):

B-α1. Myths and the like taken literally without change (§§ 650-60)

B-α2. Myths and the like with slight and easy alterations in literal meanings (§ 661)

B-β. Myths and the like have a historical element combined with an unreal element (§§ 662-763):

B-β1. Myths and the like have historical origins, and the stories have undergone alterations in course of time (§§ 681-91)

B-β2. Myths and the like are made up of experiences wrongly interpreted and fallacious inferences from real facts (§§ 692-719)

B-β3. Historical facts are deviations from a type, or constitute a series with a limit or asymptote (in the mathematical sense) (§§ 720-32)

B-β4. Myths and the like are imitations of other myths. Two or more similar institutions are imitations of each other (§§ 733-63)

B-γ. Myths and the like are entirely non-real (§§ 764-96).[1]

576. A: *Abstract entities are explicitly introduced and are known independently of experience. Such knowledge is superior to experimental knowledge.* In that we have the chief characteristic of the

575 [1] We are to study the category A in this chapter; category B in the chapter following.

type. If, for instance, the thesis of unitary evolution be derived from experience we get a theory of Class I (§ 13). If the thesis be assumed *a priori,* we get a theory of Class II (§ 13). Generally in this case the principle is not deliberately removed from the experimental field. It is taken as self-evident, and one goes on from there, slipping unwittingly into a type B theory (§ 575). If, on the other hand, a "natural law" required by "natural reason" be assumed, one may talk about experience as much as one pleases: the theory will still remain in our group A above, because the *naturalis ratio* is superior to experience, and experience is allowed to confirm its dictates but never to contradict them.

577. At a given moment the centre of the Earth is at a certain distance from the centre of the Sun. Since the distance does not vary greatly, one can define (an arbitrary procedure) a roughly average distance and call it the distance between the Earth and the Sun. It may be hard to find such a thing, but it undoubtedly exists, and one can look for it experimentally.

578. But suppose we set out to discover who Jupiter is. The suspicion at once arises that the thing we are looking for may not exist. And even if we try to find what conception the Romans had of Jupiter, we may still be looking for something that never existed—there may have been more than one such conception. We can, indeed, following the method used above, outline a roughly average conception, and such a Jupiter, in part an arbitrary creation of our own (§ 103), can then be sought and found.

579. The belief that certain abstract entities exist independently of experience, and are not products of a partially arbitrary abstraction, is so self-evident, and so deeply rooted in the minds of most human beings, that the non-logical sentiment underlying it must be a very powerful one indeed. So we glimpse thus early one principle that may serve to guide us in a classification of social facts with reference to the determination of the social equilibrium. Moreover, since the belief has gone hand in hand with the progress of human societies, we are justified in surmising that however false it may be experi-

mentally, it may play a rôle of some practical advantage in social life.[1]

580. In dividing the theories of category A into genera, we may take as criteria the varying proportions of experimental inferences that they contain, starting from an extreme, A-α, in which there is little or none, going on through an intermediate genus, A-β, in which experience is mixed with other considerations, and arriving at another extreme, A-γ, in which, apparently at least, experimental considerations predominate.

By "experience" (§ 6) we here mean *direct* experience and observation. A person might say that he is going by experience (or observation) when he tries to find out from the Bible whether touching the Ark of the Lord leads to death and accepts that testimony without daring to doubt it or criticize it. Be it so—we are not going to argue over names. But just to prevent misunderstandings, we warn the reader that that is not the sense which we attach to the word "experience" (or "observation"), which here means either direct observation, or observation at second hand through testimony that has been sifted, discussed, criticized, as to whether people who touch the Ark of the Lord die or live on (§ 1482).

581. The motives we have for accepting an opinion are either external or "inner." The external motives, in addition to rigorously scientific experience, which we are not considering here, are chiefly authority and the consensus of other human beings, whether real or imaginary, with an appeal to "the mind"—to mind in the abstract. So we get our two genera A-α1, A-α2. The inner motives come down to accords with sentiments. They yield phenomena in which experience plays no part whatever, such as "living faith," which goes so far as to declare that it believes a certain thing because it is absurd. We are not going to deal with them just here, since we are now examining nothing but the means of logicalizing the non-logical. The living faith just spoken of is non-logical, but no attempt is made

579 [1] For the moment we can come to no conclusion on the point; but we are tempted to call attention to the possibility, in order to forestall the hasty inference that because we were rejecting the belief from the experimental standpoint we were intending to condemn it also from the social standpoint (§§ 72 f., 311).

to disguise it as logical. In the concrete case of a taboo without sanction there is, in a first stage, a preponderant element of living faith by virtue of which one believes without asking for reasons. It is possible, in a later stage, to discern the germ of a logical explanation, which is purely verbal and comes down to the bare statement: "We must do so and so because that is what we must do." [1]

Inner motives present other phenomena in which experience seems to play a part, and so we get the genera A-β and A-γ, and in addition, an element, primary or secondary, of category B. The semblance of experience is obtained either by assuming that what is really a product of sentiment is confirmed by experience, or else by effecting a confusion between objective experience and the expression of sentiment. This reasoning when pushed to the extreme gives us the introspection of the metaphysicists, which is nowadays assuming the new name of "religious experience"—the experience of the neo-Christians. In that way the person who frames the theory becomes judge (§ 17) and pleader at one time. The theory is judged by the sentiment that creates it, and the accord therefore cannot be other than perfect, and the judgment other than favourable (§ 592). But things are different when the judge is objective experience, which can, as it often does, deny the theory built up on sentiment—the judge is different from the pleader.

582. A-α: *Experience is given little or no place.* This substantially is the position of theologies and systems of metaphysics. The extreme case is the sanctionless taboo just mentioned, when one says, "You must do so and so, because you must." Then pseudo-logical fringes are appended in greater and greater abundance, until long legends or disquisitions are elaborated. As means of demonstration these pseudo-logical developments make lavish use of authority and universal consensus.

583. A-α1: *Authority.* Just here we are considering authority merely as an instrument for logicalizing non-logical actions and the

581 [1] Viewed under this aspect we might make casual note of this case under category A, leaving a more thorough study of it for Chapter IX, where we shall consider in their general aspects the explanations that human beings give of their conduct.

sentiments in which they originate.[1] Divine revelation in so far as it is not considered a historical fact (B-α), belongs to this subvariety, as do also the divine injunction and the divine prophecy. After all, such things emanate strictly from human beings; and if we look closely we see that the point about divine will is made merely to justify the concession of authority to the individual represented as an interpreter of that will.[2] The Mohammedans accepted the authority of Mohammed just as educated people at a certain period in our history accepted the authority of Aristotle. The Mohammedans explained their acceptance on the basis of Mohammed's divine inspiration. The Christians pointed to the profound knowledge of the Stagirite. The two explanations are of an identical character. So it is easy to understand how they could be combined in periods of unenlightenment, and how the Virgil admired as a poet could become the wonder-working magician of the Middle Ages (§§ 668 f.).

584. Authority is frequently presented as an adjunct to other demonstrations. Its meaning, in such a case, is roughly as follows: "The facts we mention are so well known, the arguments we put forward so convincing, that they are accepted by everyone, or at least by all educated and intelligent people." That method of reasoning was

583 [1] To the general discussion of authority we shall return in Chapter IX.

583 [2] St. Augustine does, it is true, make a distinction between divine and human authority; but he goes on to point out that divine authority is known to us only through human beings and their writings. *De ordine* (*Opera,* Vol. I, p. 977), II, 9, 27: "Authority is partly divine, partly human; but the true, the fixed, the supreme authority is the one called divine." But those infernal demons are always on hand to lead us astray! "We must always be on our guard against the wondrous deceptions of aerial creatures, which are wont to deceive [human] souls—and very readily—by certain powers they have, notably their ability to foresee things within reach of the senses of their [aerial] bodies. . . . That authority, therefore, is to be called divine which not only transcends all human faculties in its sensible signs, but by its influence upon man (*ipsum hominem agens*) shows him how far it has deigned to stoop (*quo usque se depresserit*) on his account. Human authority, however, is often mistaken." But how are we to recognize the authority that is divine? *De vera religione* (*Opera,* Vol. III, p. 121), 25, 46: "God has seen fit that His intentions with the human race (*quid agatur cum genere humano*) should be made known through history and prophecy. But the credibility (*fides*) of temporal things past or future is a matter rather of faith than of knowledge; and it is our affair to decide to what individuals or what books we shall pin our faith for the proper worship of God, in which alone salvation lies."

widely used to prove the existence of witches, ghosts, and the like.[1]

585. The Protestant who sincerely accepts the authority of the Scriptures and the Catholic who defers to the Pope pronouncing *ex cathedra* are both doing the same thing under different forms. So also the humanitarian who swoons over a passage of Rousseau; so the socialist who swears by the Word of Marx or Engels as a treasure-store of all human knowledge; and so, further, the devout democrat who bows reverent head and submits judgment and will to the oracles of suffrage, universal or limited, or what is worse, to the pronouncements of parliaments and legislatures, though they are known to house not a few politicians of unsavoury reputation.[1] Each of such believers of course considers his own beliefs rational and other beliefs absurd. The man who admits the infallibility of universal suffrage as manifested by somewhat moth-eaten politicians flames with scorn at the mere thought that anyone can believe in the infallibility of the Pope, and demands that Catholics be deprived of the right to teach in the schools because their judgments are not "free." On the other hand, the judgment of a person who changes

584 [1] We shall revert to this matter in §§ 1438 f.

585 [1] One example from the host available: In Italy there was a great deal of opposition to a proposed bill giving a monopoly in life insurance to the State. It was alleged, among other things, that the mortality statistics used by the Government were not accurate. That was a scientific controversy, exactly parallel to Galileo's quarrel with the Inquisition as to the rotation of the Sun. The law being passed by the parliament, all controversies, the scientific included, were assumed to be settled, and on Sept. 16, 1912, the *Giornale d'Italia* published the following editorial: "As is well known, this newspaper has not been in favour of the insurance monopoly, basing its opposition on the economic theories of which Deputy Nitti has always been the avowed champion, on self-evident considerations of justice, and, finally, on considerations of expediency that, unfortunately, had to be given great weight in view of the hostility of European finance to Italy during the [Libyan] war. But our opposition ended the day the insurance monopoly was voted by the two houses of the parliament, because of our great and never disputed deference to the laws of the State. Now the Istituto Nazionale delle Assicurazioni has become a fact, as a state property, as a possession of the nation at large. All Italians who love their country must therefore hope that it will actually realize the purposes for which the law has established it, that it may extend the practical benefits of insurance to the people generally and become a potent factor in the economic progress of our country." One can detect not the slightest difference between that attitude and the attitude of the Catholic who, once the Pope has spoken *ex cathedra,* submits judgment and will to the Pope's decision.

views not from personal conviction, but in deference to the oracles of a political assembly, enjoys, it would seem, the quintessence of "freedom."

586. A person interested in arguments only as regards their logico-experimental force might suppose that when people are stocking up with such postulates they would see to it that they be as exact as possible and lend themselves to strictly logical development. But experience has shown that that is not the case, nor ought the fact seem surprising to anyone mindful of the logic of sentiments (§ 514). For purposes of persuasion postulates that may mean anything simply because they mean nothing exact are the best imaginable. And it is a matter of observation that different and sometimes opposite conclusions are often drawn from them. Oftentimes, besides, postulates of our A-α1 variety are combined and confused with postulates of our A-α2 variety. The logical element is often better in A-α1 than in A-α2.

587. An example or two of opposite conclusions drawn from the same principle.[1] There is a wide-spread belief that water and fire are pure and sacred. From it the Hindus conclude that the bodies of the dead ought to be either burned or thrown into the Ganges. The Parsees conclude, to the precise contrary, that neither fire nor water should be defiled through contact with a corpse.[2] It seems that in India cremation was not the absolute rule. It has, however, remained the principal means of disposing of the dead. The corpse is

587 [1] We shall be meeting others from time to time as we go on, for example, in § 873.

587 [2] Henry, *Le parsisme,* p. 16: "The Persians, as is well known, reject cremation after death as a horrible profanation. Here again let us stress the identity of standpoint underlying an altogether superficial antagonism. The common epithet of the Vedic Agni is *pàvaka,* 'the purifier.' Fire, say the Brahmans, is a thing essentially 'pure.' The dead body therefore must go through fire and leave all its impurities there, that the deceased may enter the eternal realm of Yama thoroughly cleansed. Thereafter the fire that has been so contaminated can be relieved of its noxious properties by a rite of lustration. Fire, reply the Mazdeans, is a thing essentially pure. Who, then, would dare violate its sanctity by thrusting upon it the abominable task of devouring the most loathsome thing in the world, a corpse in process of putrefaction? Arguments carried to extremes that touch are common enough in mystical systems."

laid on a pyre that has been reared in the midst of three fires kindled from the three sacred fires of the deceased (in case he has kept them burning). There it is burned with certain ceremonies that need not concern us here. "As fire watches over the Hindu's birth, so it watches over the fundamental phases of his life." [3] Corpses are still burned in India in our times. Says Sonnerat: [4] "As soon as the pyre has burned out, milk is sprinkled over the ashes, and the bones that have been spared by the fire are gathered up, put into urns, and kept till occasion offers to throw them into some sacred stream, or into the Ganges. The Hindus are convinced that the man whose bones get into a sacred river will enjoy infinite bliss for millions of years. Those living on the river-banks often throw corpses into the water whole, after hastening death by making the sick drink all the water they can hold, since they attribute miraculous properties to it." [5]

Herodotus, *Historiæ,* I, 140, discourses on the Persian, or at least the Magian, custom of having dead bodies devoured by birds or dogs. An epigram by Dioscorides says: [6] "O, burn not Euphrates, nor defile the fire in my person, O Philonimes. I am a Persian, yea, O my master, of the native Persian stock. To pollute fire is for us more bitter than grievous death. But wrap me in a shroud and give me to the earth. Nor do thou sprinkle my body with water, for I worship, O my master, the streams also." [7] Chardin describes the cemetery of the Parsees at Ispahan in Persia where bodies are exposed to ravens and birds of prey.[8]

587 [3] Oldenberg, *Religion des Veda,* p. 338.

587 [4] *Voyage aux Indes orientales,* Vol. I, p. 92.

587 [5] On p. 85 he remarks: "The Brahmans who worship Vishnu believe that the fire purifies them of their sins. Devotees of Siva (*Chiven*) claim that since they have been consecrated to the service of the god they do not need to go through fire, the sins they may have committed not being imputable to them. It is sufficient if they be sprinkled with lustral water, of which they make lavish use."

587 [6] *Greek Anthology,* VII, 162 (Paton, Vol. II, p. 91).

587 [7] Pliny relates that Tiridates refused to go to Rome by sea in order not to pollute the water by his physical necessities, *Historia naturalis,* XXX, 6 (Bostock-Riley, Vol. V, p. 428): *"Navigare noluerat, quoniam expuere in maria aliisque mortalium necessitatibus violare naturam eam fas non putant."*

587 [8] Sir John Chardin, *Voyage en Perse,* pp. 9 f.: "I shall describe a cemetery they have half a league outside the city of Ispahan in a very out-of-the-way locality. It is a circular tower made of heavy rough-hewn stones, and about thirty-five feet

588. Lack of definiteness in the premises explains how different conclusions may be drawn from them, but it does not explain why they are drawn; and in many cases we have no way of knowing whether the authority is the source of belief, or the belief (or rather, the sentiments underlying it) is the source of the authority. In many many other cases it is apparent that there has been a sequence of actions and reactions. Certain sentiments lead to the acceptance of a certain authority, and the latter in its turn reinforces the sentiments or modifies them; and so on over again.

589. The authority may be of one or more individuals; and if it

high and ninety in diameter. There is no door or other entrance. . . . When a body is to be placed in that tomb three or four of their priests climb to the top of the wall with ladders, hoist the corpse up with a rope and let it down inside along the upper shelf. . . . There is a sort of trench in the middle, which I saw to be full of bones and garments. The dead are laid fully clothed on little stretchers and placed side by side, so close as to touch, all around the tower and close up to the wall. . . . I could see bodies recently arrived, and still intact as to the feet and hands, which were naked; but much disfigured about the face, because the crows which flock about the cemetery and live by hundreds in the immediate neighbourhood attack that part of the body first. . . . Some fifty paces from the tower stands a little stone house . . . whence the high-priest watches to see in just what manner and on what part of the body the crows begin their work. . . . He does not have to wait long, for at least some bird will soon alight on the corpse and begin at the eyes. . . . In order not to frighten the scavenger the priest performs his observation through a little hole, noting which eye is first attacked and under what circumstances, basing thereon conjectures as to the status of the deceased in the other world and the future of his children and heirs in this. The right side is supposed to be the good one. . . . So I was told generally in all the countries where there are Parsees; but then again I have met individuals who denied all such magic or superstition."

If a man who does not know how to swim or is unable to do so is thrown into the water, he sinks and is drowned. However, in a day gone by it was held that if he floated it was because he was innocent. It was also held that it was because he was guilty (§ 956). Father Le Brun, in his *Histoire critique des pratiques superstitieuses,* Vol. II, pp. 256 f., notes the striking contradiction. He mentions cases where innocent people floated: "The defendant, a woman, was tied the way victims used to be tied for the cold-water test, and hurled from the top of a very high bridge into the river; but by the intercession of the Holy Virgin she remained afloat and the current bore her safe and sound to the shore. . . . It is quite clear that such miracles stand in conflict with the cold-water test. They kept the innocent afloat through a visible protection of God that has been made manifest in a hundred other such miracles. But by a surprising whimsicality that caused the adoption of the cold-water test, some were of opinion that innocent people sank in the water, while only the guilty kept afloat."

is confirmed by direct observation, it does not overstep our subvariety A-α1. Yet oftentimes the consensus is not based upon direct observation, but is merely taken for granted on the basis of certain sentiments held by the person asserting it; and then we get an instance of our subvariety A-α2. That is the case when there is an appeal to "universal consensus." It is certain that no one has ever been able to establish any such consensus by consulting all the human beings who have lived or are living on earth, and that the majority of them would not even understand the questions to which they are presumed to have given all the same answer. Such a claim, therefore, has to be translated somewhat in this fashion: "The thing, *in my opinion,* ought to enjoy universal assent," or else, ". . . the universal assent of people whom I consider wise, sensible, well-informed," and the like. The second assertion is by no means the same as the first.

590. The principle of authority holds even in our present-day societies, not only for the ignorant, and not only touching matters of religion and morality, but even in the sciences, especially in those branches with which a person is not directly familiar. Comte made this point very clearly, though he later drew erroneous consequences from it.

591. A-α2: *Consensus of a number of individuals who are counted or weighed; or of mind in the abstract* ("the mind"). The consensus may be invoked to show that certain things are inconceivable—an "infinite" straight line, for example. That is the situation in scientific or metaphysical abstraction, and we are not concerned with it here. On the other hand, the consensus may be alleged with reference to propositions the contraries of which are perfectly conceivable—the existence of gods, for instance. That situation does lie within our province.

If universal consensus, or the consensus of a majority or even of a few, is explicitly adduced as testimony to experience, we get the narrations of experimental science or, if the testimony overreaches experience, narrations of our group B. Here we are to deal with those cases only in which the consensus operates in and of itself and

is put above experience. It may involve two things foreign to the experimental domain: (1) the fact of consensus; (2) the implications of the fact.

592. 1. *The fact of consensus.* It might be proved by statistics—a certain number of individuals are questioned and their answers noted. In such a case the fact would be experimental. But generally that is not done; the consensus is taken for granted, or at the most verified by some hasty experimental or pseudo-experimental investigation. When the consensus is alleged to be of "all men," experimental proof is absolutely out of the question, even when the "all" is limited to living persons without reference to the dead. It is impossible to question all human beings living on earth, or to make many of them even understand the questions for which an answer is desired. The same applies to a consensus of majorities, even if totals are confined to a specified territory.

To avoid such embarrassments, epithets are commonly resorted to: the consensus invoked is the consensus of all "intelligent," "rational," "honest" men, or the majority of them (§ 462). Then directly or indirectly one recognizes as intelligent, rational, honest, only people who share the opinion that has been decorated with the universal consensus (§ 1556); and so, by a splendid reasoning in a circle, it is undeniable that the opinion enjoys that consensus in fact.

To avoid the circle, it would be necessary for the qualities required in the people consulted to be independent of the opinions and determined only by general considerations, such as competence in given connexions. So one might invite the opinion of a farmer as to a given crop, and the opinion of a scientist on a problem in science; and that would be taking us from the question of consensus back to the question of authority. To remove the embarrassment of statistics not possibly obtainable and still to escape falling into the circle, the appeal is made to an abstract, undefined, and undefinable "mind," which is, after all, the mind of the person claiming the consensus, presuming the latter from the assent of his own mind, which he baptizes as "mind" in the abstract. So we get the introspection of the metaphysicists and of their successors, the neo-Christians. From

the counted vote, which it is impossible to obtain, we move over to the assent that is weighed with loaded scales, and the number of the votes gradually comes down to the single vote of the person who started the voting in order to prove his theory (§§ 402 f., 427). All that takes us outside the domain of experience, which could alone show the alleged consensus either of all men or of the majority of men, or even of certain individuals selected for qualities independent of the opinion desired.

593. 2. *The consequences of the fact.* Let us assume the hypothesis most favourable for the purpose in view and suppose that the fact of consensus has been substantiated by experience to a fair degree of probability.[1] It is ordinarily inferred that the idea expressed in the consensus must all of itself correspond to reality; in fact for some metaphysicists it *is* reality. Even if they no more than assert a *necessary* correspondence with experimental reality, they are overstepping the bounds of experience. Experience by no means shows that when a very large number of people have an opinion that opinion corresponds to reality. All the way along from the belief that the Sun plunged into the ocean at night down to the countless beliefs in magic, we have examples of manifest errors that have been regarded as truths by vast numbers of people. When therefore one asserts that the opinion of the majority is in accord with experience, one is quitting the domain of experience. Such an assertion can be accepted only on non-experimental grounds (§ 42).

Here, again, the reasoning in a circle helps. If the objection is raised that human beings in large numbers have believed in witches, we answer that such people were neither intelligent nor well informed; and if we are asked how the intelligent and the well-informed are to be recognized, we reply that they are people who believe only in things that are real. After that we are in a position to assert in all confidence that the opinions of intelligent and well-informed people always correspond with realities (§ 441).

593 [1] As we have already said (§ 591), we are here ignoring the scientific case in which the probable existence of such an experience is inferable from the consensus.

If, to avoid the circle, we resort to the consensus of "competent" individuals, the competence being determined independently of the opinions desired, we are still left outside the domain of experience if we assert that their opinions are in accord with reality. Experience shows that the opinions of the "competent" are oftentimes wholly at variance with realities, and the history of science is the history of the errors of experts. Such opinions may therefore be used only as indicating a greater or a lesser probability of an accord between a theory and reality, the chances varying with the state of knowledge and the competence of the individuals expressing the opinions—never as an experimental proof of the theory, which can be furnished only by direct or indirect experience—and if that fact is not taken into account, we depart from the logico-experimental field. In the logico-experimental sciences the prerogative of judging (§ 17) belongs to experience. In certain cases it may be delegated to "competent" experts, provided they be chosen in a manner independent of the character of the reply desired; provided the problem submitted to them be stated with adequate clarity; provided they be truly acting as representatives of experience and not of this or that creed; and provided, finally, their decision may always be appealed to the supreme tribunal of experience.

594. When, again, the method chosen is to assert that universal consensus is itself reality, "creates" reality, it is generally understood that such consensus is not of human beings of flesh and blood, but of a certain ideal man; not of the minds of individuals taken one by one, but of an abstraction called the "human mind," or "the mind." And since the metaphysicist fashions the abstraction to suit himself, it is obvious that in gratitude to its creator it will eventually assent to anything he pleases.[1] Thence, in due course, arise such formulas

594 [1] Controversies as to the correspondence of concepts to objective reality are nowadays confined to metaphysics and its appendages in the social sciences. In days gone by they were very common in the natural sciences. Even geography was affected by that disease, as witness Strabo, *Geographica,* I, 4, 7-8 (Jones, Vol. I, pp. 245-47). He quotes Eratosthenes, who was claiming that disputes as to the precise boundaries of the continents were a waste of time because, there being no exact boundaries, such territories could not be divided off exactly. But Strabo comes back, saying among other things: "Who, in speaking of three parts and calling

as that the "inconceivable" does not exist, or that to know a thing one has to "think" it. The correspondence between the notions of the abstract mind (which in the end proves to be the mind of the author of the theory) and reality becomes self-evident, either because such ideas are in themselves reality, or because, if some little room is graciously made for experience, the mind creating the theory appears as both pleader and judge (§ 581).

595. In the concrete cases of arguments appealing to universal or majority consensus, experience is overreached in the two ways mentioned: by presuming an assent that is not experimental, and by drawing from it inferences that are not experimental either. All reasonings of the kind are further wanting in the trait of definiteness. Anything calculated to lend precision or strictness to the theory is left unexpressed. Much is made of universal or majority consensus without any inkling being given as to how it has been obtained, whether opinions have been counted or weighed, how and why it is presumed. Commonly, one gets vague formulas such as: "Everybody knows . . ." "Every honest man admits . . ." "No intelligent person denies . . ." The most patent contradictions are purposely disregarded. Universal consensus is adduced to prove the existence of God to an atheist, overleaping the fact that the very existence of the atheist who is to be converted, or controverted, destroys the universality of the assent.

The theory that the conceptions of "mind" in the abstract must necessarily accord with experience is explicitly stated only by some rare metaphysicist. Ordinarily it is slipped in implicitly. When one asserts that "everybody knows," that "nobody denies," that $A = B$, it is insinuated or suggested, rather than shown, that experimentally A and B will prove to be equivalents (§ 493).

each of them a continent, has not first had the idea of the whole that he is dividing into such parts?" He then goes on with an argument that forces a smile: "If there are two princes, one of whom claims all Libya and the other all Asia, how decide which of them is to get Lower Egypt?" Poor Strabo must have been momentarily out of his mind! He lived at the time of the Roman Empire, and he might have remembered that such disputes were settled not by the arguments of geographers but by force of arms.

596. All that is left loose and indeterminate; for if it were made definite and positive, the fallacy in the reasoning would become apparent. When it is asserted that human beings and animals have a certain law in common (§§ 419, 421, 449), we are not told exactly to what thing or things the term "law" is applied; whether by "human beings" and "animals" all men and all animals are meant, or only some, and how they are selected; on what observations of fact the assertion is based; and what conclusions are to be drawn, scientifically, from the supposedly established existence of such a law common to men and animals. All that is, and is left, wrapped in fog, and the argument in which such indefinite terms figure can appeal only to sentiments.

597. If the facts are considered in themselves, it may seem strange that educated and intelligent people could ever have imagined that experimental uniformities were to be discovered in any such way; stranger still that they should have had so many disciples, and their theories been admired—I do not say understood—by hosts and hosts of people; and strangest of all that there should be those who think they understand disquisitions on the "one" and the "multiple," formulas such as the "Being creates beings" of Gioberti, or abstractions such as that "goodwill" of Kant which *"is esteemed to be good* not by the effects which it produces, not by its fitness for accomplishing any given end, but *by its mere good volition—i.e.,* it is good in itself" (Semple translation).[1]

598. But since, far from being singular, strange, extraordinary, such cases are common, ordinary, the rule, they must obviously all be effects of some cause as cogent as it is general; and we begin to suspect that the cause is to be sought not so much in the value of the arguments, which is exactly zero, as in the strength of the sentiments that they disguise. If that should prove to be the case, the main thing in metaphysical theories would be the sentiments and not the arguments; and so, to stop at the arguments and judge a

597 [1] *Metaphysik der Sitten,* p. 12 (Semple, p. 4): [For the phrase of Gioberti, see his *Introduzione alla filosofia,* Vol. II, p. 204; and for a similar phrase, "being produces being," p. 194.—A. L.]

metaphysical system by its theories would be not unlike judging the strength of an army by the uniforms of its soldiers. It might also prove that this again was one of the many cases in which erroneous theories have their social usefulness, a fact that would contribute, in a subsidiary way at least, to their long survival, the influence of the underlying sentiments still continuing to be the main thing.[1]

599. Proof by consensus is often dissembled under a mask that is ostensibly, but not actually, experimental. That is the general rule in introspection. In experimenting on oneself, one assumes, without explicitly stating as much, that the experiment will be valid for all other people, or at least for all reasonable, intelligent, "thinking" people. Descartes begins his experiment on himself by assuming that everything that he has hitherto believed is unreal, false.[1] Then he runs on: "But shortly, as I was so trying to think everything unreal, I became aware that I, who did the thinking, had to be real; and observing that the truth 'I think, therefore I am' was so solidly grounded and so certain that all the most extravagant hypotheses of the sceptics were not able to shake it, I concluded that I could accept it without misgiving as the first principle of the philosophy I was seeking." It is evident from the whole essay that Descartes's purpose is not just to exhibit his personal sensations. He is trying to establish a thesis that will hold for others too. On close inspection, his argument is seen to contain several implicit assumptions: 1. That his thesis, "I think, therefore I am," has a meaning for others as well as for himself. 2. That others will accept the thesis. 3. That the thesis when so accepted will be something more than a collective illusion. Moreover, he crosses swords in advance with possible critics, and that betrays his conviction that his thesis has to be accepted by all who understand and reason aright. That is the usual procedure with metaphysicists: they have some thought or other and then, be-

598 [1] This is not just the place to deal with the question. Here we are considering theories primarily as to their accord with experience. However, we have often had occasion to wonder why and how they came to have such wide-spread appeal, and we shall see the answer more clearly as we proceed (Chapters IX and X and specifically § 1468).

599 [1] *Discours de la méthode,* IV (*Œuvres,* Vol. VI, p. 32).

cause the thing seems thus and so to them, they presume that every intelligent human being has to be of their opinion; and that for them is equivalent to the assent of all rational beings, or at least of a very engaging abstraction that they call the "human spirit," and which no mortal man has ever seen or knows anything about.

600. To conceal a fallacy it is often helpful to adopt an impersonal mode of expression. Descartes, for an example right at hand, says, *Ibid., loc. cit.,* p. 39 (italics mine): "But if *we* did not know that all within *us* that is real and true comes from a perfect and infinite being, however clear and distinct *our* ideas might be, there would be nothing to assure *us* that they had the perfection of being true." The pronoun "we" designates people impersonally; but who are those people—those "we's"? All the same, Descartes must have known perfectly well that the majority of people living on earth had never heard of his theory, that of those who did know of it many could make neither head nor tail of it, not a few denied it, and only a very very few agreed with it. And the question still stands: Why should a person not agreeing accept the thesis? If an experimental proof were possible, Descartes would have made haste to answer, "In view of the proof!" But there is no such proof; and there can be no question, either, of any consensus, whether universal, or of a majority, or even of any great number. It only remains for Descartes and his disciples to say, "We are right because we are right."

601. Spinoza is looking for a "first and general cause" for motion (blessed was he to know what that meant!). He observes that we must admit nothing that we cannot clearly and distinctly perceive (again italics mine);[1] "and since *we* clearly and distinctly perceive no other cause except God—that is to say, the Creator of matter—it becomes manifest that no general cause is to be admitted except God." But who, pray, are the people designated by the pronoun "we"? Assuredly not all human beings—for the reasons already given; and since not all, how is one to go about selecting the few, the many, who are to be blessed by inclusion among the "we," and

601 [1] *Renati Descartes principia philosophiae,* II, 11-12, and *Scholium a* (p. 60).

separating them from the reprobates who are to be left in the outer darkness? Spinoza "clearly and distinctly" sees God as the "cause" of motion—and what luck! But there are plenty of people who not only do not "clearly and distinctly" see God as the "cause" of motion, but who do not even know what "God" or "matter" can possibly be.

602. What has been said above may be repeated for any number of metaphysical propositions, and it also applies to what is known nowadays as Christian experience, which is merely a new name for a thing many many centuries old—and to wit, introspection (§§ 43, 69-2, 431).

603. What we have been saying attacks only one aspect of the problem we have set ourselves with reference to the numerous propositions of the type. It is undeniable that many such propositions have been accepted by learned, intelligent, and sensible people; and if one insists on sticking to a theory of logical conduct, it is all the more difficult to understand how such a thing could happen, the more clearly it is demonstrated that such propositions are destitute of any foundation whatever in experience and logic. We have to look in some other direction for the solution to the problem, therefore.[1]

604. In practice the subvarieties A-α1 and A-α2 seldom appear entirely separate: ordinarily they are combined, and lend each other mutual support; and they may even be re-enforced by arguments of our category B. A thing that is accepted mainly on authority is taken as further confirmed by the accord of "reason" and experience plus consensus. Introspection, for instance, yields a principle; the principle is assumed to be confirmed by the authority of the individual performing the introspection; then by the assent of others as determined in the ways just described, and sometimes further by pseudo-experimental arguments.

605. We have another example in Catholic doctrine. The Vatican

603 [1] We are not yet ready for the solution (§ 598). Suffice it for the moment to understand clearly that we are here considering just one aspect of the problem, and the aspect which from the social standpoint is perhaps the least important: the accord of such theories with experimental reality.

Council unequivocally asserts that "God, the beginning and end of all things, may be known of certainty from created things through the natural light of human reason. . . . Nevertheless it has been pleasing to His wisdom and goodness to reveal Himself and the eternal decrees of His will to the human race through another, the supernatural, channel." [1] Here A-α1 and A-α2 are closely conjoined, and in such a way that no conflict can arise between them. Experience is not asked whether faith can show one thing and reason another, for the answer would have to be in the affirmative, and a negative answer is desired. The method used to make the answer negative is the method used by all metaphysics—by all beliefs which try to get along without reference to experience. It lies in a declaration that the answer has to be negative, and that only the reason that agrees with faith is fit to be called reason. An unimpeachable demonstration is thus obtained, since every tautology is unimpeachable.[2]

605 [1] *Acta et decreta Sacrosancti et Oecumenici concilii Vaticani, cap.* II, § 1 (Schaff, Vol. II, p. 240): *"Eadem sancta mater Ecclesia tenet et docet Deum, rerum omnium principium et finem, naturali humanae rationis lumine e rebus creatis certo cognosci posse; . . . attamen placuisse eius sapientiae et bonitati alia eaque supernaturali via se ipsum ac aeterna voluntatis suae decreta humano generi revelare."*

605 [2] *Ibid., cap.* IV, §§ 1-4 (Schaff, pp. 247-49): *"Faith and Reason.* It has all along been and still is the consensus of the Catholic Church that there are two orders of knowledge to be distinguished both as to the principle and the matter (*objecto;* Schaff: "distinct both in principle and also in object.") As regards the principle, we know on the one hand by natural reason, and on the other by divine faith. As regards the matter (*objecto*), in addition to such things as natural reason may attain, mysteries that lie hidden in God are set before us for our belief, which, unless they were divinely revealed, could never be known. . . . (§ 3) And even if faith is higher than reason, there can never be any real conflict (*vera dissensio*) between faith and reason." There is an *a priori* reason why things have to be that way: "The same God that reveals the mysteries and inspires the faith has bestowed the light of reason upon the human soul; and God cannot deny Himself, nor can the true ever contradict the true." And there we are back with our tautologies again! Nobody is saying that the true can contradict the true. The claim is that one of the things called true is not true. Furthermore, all the argumentation is beside the point, once it is granted that God is omnipotent. All that need then be said is that God has willed things in that way. Why, then, all the palaver? Because the human being will have his logic, and he has to be humoured in one way or another! "And (§ 4) not only are faith and reason never in conflict, but they mutually support each other, since right reason shows the foundations of faith and in the light of faith perfects our knowledge of things divine." *Canones et*

606. St. Thomas works out a proof that is substantially the one adopted by the Vatican Council. He equates the processes of reason and faith with "truth," and thence concludes that they must be equivalents, since two things equal to a third are themselves equal.[1]

607. It is interesting to note that in their disputes with the pagans the Fathers of the Christian Church base proofs of their religion on the accord existing between it and the principles of morality, especially sex morality. If one forgets for the moment that logic is pointless outside the experimental field, and then reasons logically, it would seem that where there is an Omnipotent Being a thing should be moral because it is willed by Him, and not that He should exist because He wills what is moral. But thinking not of logical but of persuasive force, one sees at once that, especially in a debate with pagans, the persuasive force may lie in the dependence of the existence of God on morality. The pagans had certain moral principles in common with the Christians. Hence the expediency of starting with them to demonstrate the existence of the Christian God.[1]

608. Heckling the pagans on the matter of their gods Tertullian says, *Apologeticus,* XI, 11, "I ask you therefore whether they [the men who you say became gods] deserved to be exalted to the heavens or hurled into the pit of Tartarus, which, you now and then say, is the place of infernal punishments." And he mentions the various sorts of rascals who are in torment there and who, he asserts, are perfect replicas of the pagan gods. That is a sound and most dev-

decreta concilii Tridentini, sessio III, *De fide,* 3 (Schaff, Vol. II, p. 253): "If anyone shall maintain that divine revelation cannot be corroborated by external evidence (*externis signis*) and that the human being can be brought to faith only by inner personal experience and inspiration, let him be anathema."

606 [1] *De veritate Catholicae fidei contra Gentiles,* I, *proemium,* 7, 1 (*Opera,* 1570, Vol. IX, pp. 6-7): "It results that those things which are naturally inherent in the reason are true, in as much as it is impossible to conceive of them as false. [The basic principle of all metaphysical systems. Without it metaphysicists would go out of business.] Nor can one believe that the dicta of faith are false, since it is divinely confirmed in so obvious a manner. [But what the unbeliever denies is that the faith of the believer is obviously confirmed by God.] Since, therefore, only the false is opposite to the true, as is manifest if one consider their definitions, it is impossible for the aforesaid truth of faith to be contrary to those principles which the reason knows of nature."

607 [1] See, further, Chapters IX and X.

astating demonstration if the appeal is to sentiment, since the sentiments associated with the idea of a divine being and those associated with the idea of a rascal are absolutely repugnant to each other. But it is a demonstration devoid of the slightest logico-experimental value; for if it is asked why the pagan gods are rascals, it is hard to know what answer to make, unless it be that they violate some divine command. But along that road we bring up, as usual, on a tautology.

One can prove as much on the very authority of the sacred doctors. Christian writers blame the pagan gods for fornications. But why is fornication a crime, or if you prefer, a sin? Says St. Thomas: "If among the heathen simple fornication was not deemed illicit because of the corruption of their natural reason, the Israelites, enlightened by divine law, considered it illicit." [1] But if it is divine law that makes it illicit, how can fornicaton serve to demonstrate that the law declaring it illicit is divine? That is reasoning in a circle.

609. Just so reason the Holy Fathers of the Humanitarian Church in our day. They begin by calling "good" anything that is beneficial, and "bad" anything that is detrimental, to the greatest number, the People, the proletariat. Then they conclude that it is "good" to work for the advantage of those estimable souls, "bad" to work against them.

610. Christians could have adopted one of two courses to be rid of the pagan gods: they could have held them to be entirely imaginary, or have conceded them a reality that had its place in the new religion. There was no question of explaining the conceptions of the gods on the basis of non-logical conduct, not only because science was far from being sufficiently advanced for doing such a thing, but also because it would have struck a serious blow at the general principles of the Christian faith itself. In point of fact, the Christians pursued both the courses mentioned, and preferably the second—a thing not difficult to understand, since the second is more acceptable

608 [1] *Summa theologiae,* II^{a} II^{ae}, *qu.* 104, *art.* 2 (*Opera,* Vol. X, p. 219, *Utrum fornicatio simplex sit peccatum mortale*): *"Quia apud gentiles fornicatio simplex non reputabatur illicita propter corruptionem naturalis rationis, Iudaici autem ex lege divina instructi eam illicitam reputabant."*

to a living active faith that sees doings of God, angels, and devils everywhere. That is why, not so very long ago, Van Dale's book on the pagan oracles was considered offensive to the Christian religion, and Fontenelle's polished paraphrase of it even more so. For similar reasons, in our day many Christians shut their eyes to the quackeries of spiritualism and telepathy.

Christians perceived instinctively that if they took the view that the pagan oracles had nothing supernatural about them, they ran a danger of seeing the same theory extended to their own prophets, and that one of the best proofs which they thought could be offered of the truth of their religion would in that way be seriously shaken. To regard oracles, instead, as doings of devils had decisive advantages. It respected a principle common to Christianity and paganism —that there could be prophets and oracles—and furthermore drew a distinction between good ones and bad ones. The good ones, we hardly need add, were the prophecies, the bad ones the oracles, the ones being works of God, the others, of the Devil.

The same is to be said of miracles. Neither paganism nor Christianity denied that they were possible, but each called its own miracles true and the miracles of the other false—and the Christians added, for good measure, that the Devil often mimicked the miracles of God. For many long centuries mankind fed on such reasonings, which after all are no worse and no better than many current in our own time.

611. Nowadays a new belief, which retains the name of Christianity, is trying to replace traditional Christianity, rejecting the supernatural that for centuries was a prominent element in it and was also prominent in the Gospels.[1] It finds its main expression in

611 [1] Piepenbring, *Théologie de l'Ancien Testament,* pp. 22-24: "If the idea that Jehovah was the only god of Israel and that the Israelites were not to worship any other gods can be carried back as far as Moses, we cannot go that far back with absolute monotheism, which does not appear definitely in Israel till a much later date. . . . Not only the people but the kings, and Solomon himself, who had built a temple to Jehovah, either were addicted to cults of foreign gods or else favoured them—which proves that they regarded such gods as real. . . . Schultz rightly observes that in view of the vivid realism of the ancients, the first impression could never have been that the gods of other peoples were mere figments of

so-called Liberal Protestantism and to a lesser degree in Catholic Modernism. Just as primitive Christianity kept the principal traits of pagan morality, changing the theology, and indeed took advantage of the common morality in order to justify the change, so this neo-Christianity keeps the morality of traditional Christianity, changes the theology, and justifies the change by the common morality. Just as Jove was dethroned by the God of the Christians, the Divinity of Christ is now disappearing to make room for the Divinity of Humanity, Jesus being worshipped only as the exemplar of the "perfect man." Instrument of this transformation is universal consensus as revealed by the inner experience of the Christian. The good souls who resort to it are not aware that they get out of the Gospels only what they read into them themselves, and that they might just as well get their theories out of Virgil's *Aeneid* or any other book of the kind.

612. That delicious Plato has a simple, easy, and effective method for obtaining universal consensus, or if you will, the consensus of the wise. He has it delivered on call by one or another of the speakers in his dialogues, with the result that the consensus, at bottom, is only Plato's assent, though it is readily swallowed by people whose fanciful palates are tickled by such things. In the *Theaetetus,* 153, Socrates asks: "So then—motion you take to be good for soul and body, and the opposite not?" Theaetetus, at a nudge from Plato, replies: "It would seem so."[1] But had there been a third party to the argument, he might have answered, "I do not know, O Socrates, what on earth you are talking about!" And in that case, good-bye to your consensus, whether universal, or of the wise, or of human reason, or of any other conceivable brand.

Plato, however, does not appeal his theories to universal consensus

the imagination." It is easy to see that for Piepenbring the one true God is the God of Israel, and that all other gods are false; but it is less easy to see how he can prove such a point by rejecting the supernatural origin of the Bible. If we are to trust to inner experience, why is Piepenbring's better than somebody else's that leads to opposite conclusions?

612 [1] Σ. Τὸ μὲν ἄρα ἀγαθὸν κίνησις κατά τε ψυχὴν καὶ κατὰ σῶμα, τὸ δὲ τοὐναντίον; Θ. Ἔοικεν.

directly. He seems in fact to despise judgments by large numbers of men, counted, but not weighed.[2] The assent that he puts into the mouths of his characters represents the assent of mind in the abstract, and serves but indirectly to build up the theory—it is the rough mass of marble from which the artist in due time will extract the statue.[3] In that way he manages to create a confusion between consensus and the assent of the abstract mind, which is after all his own mind.

613. A-β: *Abstractions and principles, determined independently of experience, are incidentally and secondarily supported by experience.* As noted above, people find it difficult to abandon the experimental field altogether, and sooner or later they try to get back to it, for after all practical life more than anything else is the thing that counts. Theology and metaphysics do not wholly disdain experience, provided it be their servant. They take great pride in showing that their pseudo-experimental inferences are verified by the facts; but the believer and the metaphysicist already knew, prior to any experimental investigation, that the verification would turn out wonderfully, since a "higher principle" would never permit it to do otherwise. In their explorations in the realm beyond experience they satisfy a hankering that is active and even tyrannical in many people

612 [2] *Crito,* 44. Speaking of the *hoi polloi,* Socrates alleges that "since they cannot make sure whether anybody is wise or witless, they prefer to act at random." If the *Laches* is not by Plato, it voices Platonic ideas, and that is all that concerns us here. In that dialogue, 184, Socrates asserts point-blank that the majority view is to be disregarded:

"*Socrates.* What, Lysimachus—you would assent to anything a majority of us approved of?

"*Lysimachus.* What else could I do, O Socrates?

"*Socrates.* And you, too, Melesias, you would do the same? If you wanted advice as to the proper training for your son, would you follow the majority of us here, rather than a person who had been taught and trained under good masters?

"*Melesias.* I should follow the latter, O Socrates. . . .

"*Socrates.* . . . because, I suppose, if we would have a sound judgment, it could better be obtained from knowledge than from numbers."

612 [3] Ritter, *Geschichte der Philosophie alter Zeit,* Vol. II, p. 257 (Morrison, Vol. II, p. 227): "It was his [Plato's] advice that one should adopt such portion of [common] opinion as seemed plausibly sound and then subject it to severe examination as a basis for philosophy. He regards the formulations of [common] opinion as good points of departure for philosophical research."

for knowing not only what has been and is, but also what ought, or must necessarily, be; and, meantime, in professing to have taken experience into account—whether well or badly matters little—they escape the opprobrium of going counter to the scientific current, or even to plain good sense. But the facts that they take into account are facts selected for a definite purpose, and serving no other purpose than to justify a theory preconceived—not that it needs any justification, but just for good measure! The part assigned to experience may now be insignificant, then again very considerable; but, large or small, it is always within those limits and under those conditions. The doctrines of Comte and Herbert Spencer are types of this class.

614. The disciples of such doctrines regard them as perfect—and how could it be otherwise? They are at one with their masters both in thought and in sentiment, and they cannot see how any objection can be raised against a doctrine that in addition to satisfying both intellect and soul-hunger also has the support of such "experimental" verifications.

615. Viewed from a standpoint not strictly experimental, but didactic rather, and as contributing to the progress of science, such doctrines may be useful. They represent a transitional stage between theories based wholly on blind faith—between strictly theological, metaphysical, or ethical notions—and a definitely experimental state of mind.[1] The chasm between the two worlds is too great to be taken

615 [1] The theories of Lucretius, which are borrowed from Epicurus, have little if any experimental value; but there is an element of truth in what Lucretius says of them, especially if his remarks be applied not to the Epicurean system only, but to philosophical doctrines in general: *De rerum natura,* I, vv. 62-63, 66-67, 78-79:

> *"Humana ante oculos foede quom vita iaceret*
> *in terris oppressa gravi sub religione . . .*
> *primum Graius homo mortalis tollere contra*
> *est oculos ausus primusque obsistere contra . . .*
> *quare religio pedibus subiecta vicissim*
> *obteritur, nos exaequat victoria coelo."*

("When human life was lying foully on the ground, oppressed by a deadening religion . . . a Greek, a mortal man, was the first who dared lift his eyes against it and resist. . . . And lo! religion, lying now under our feet, is in its turn trampled to dust, and the victory exalts us to the skies.")

at one leap; a bridge has to be provided. It is already something that people should be making a little room for experience and not standing exclusively on what they find or think they find in their inner selves. Even when experience is recognized merely for purposes of verification *a posteriori,* a very important forward step is being taken —a step so important that it has not yet been taken by many people, beginning with those who think they can get their lottery numbers from dreams and ending with our liegemen of the "categorical imperative."

616. Once experience is admitted (it matters little how) within the theological edifice, the latter begins to crumble—such portion of it, of course, as stands within the experimental domain, for the other wings are safe from any attack by experience. And the dismantling would become root-and-branch complete but for the interposition of a factor of great moment—the social utility of certain theories that are experimentally false.[1] So great is the need of such things which human beings feel that if one structure happens to collapse, another is straightway reared of the same material. That was the case with Positivism, which was, at bottom, just one of the numerous varieties of metaphysics: the old metaphysics fell for a brief moment, and then at once came to life again in positivistic form. Positivism is now threatening to crumble in its turn, and another metaphysical structure is in process of erection to take its place. That happens because people obstinately refuse to separate what is in accord with experience from what is beneficial to individual or society, and obstinately insist on deifying a certain entity to which they have given the name of Truth. Let *A* stand for one such thing that is useful to society; it is recommended to us, or required of us, by a certain doctrine of faith *P,* which is not experimental and often cannot be if it is to be accepted by a majority of the people in a given country. The doctrine holds sway for a more or less extensive period of time. Then if

616 [1] We shall deal with this matter thoroughly in Chapter XII. It is extraneous to the subject at present in hand. But this passing allusion was in point to explain why it is that the theological and metaphysical structure has collapsed completely, or virtually so, within the natural sciences, while it has held together longer in social theory and may perhaps never disappear in social practice.

experimental science has or acquires some prestige, there will be people to step forward and assert—inspired, though they do not always realize as much, by considerations of utility—that the doctrine or faith in question *must* be in conformity with experience; and other people will come forward to combat and ridicule that view. But since society cannot do without the thing *A,* some of the defenders of the old faith *P* will merely replace it with a new faith *Q,* no less discordant with experience. So years, centuries, go by; peoples, governments, manners and systems of living, pass away; and all along new theologies, new systems of metaphysics, keep replacing the old, and each new one is reputed more "true" or much "better" than its predecessors (§ 2340). And in certain cases they may really be better, if by "better" we mean more helpful to society; but more "true," no, if by the term we mean accord with experimental reality. One faith cannot be more scientific than another (§ 16), and experimental reality is equally overreached by polytheism, Islamism, and Christianity (whether Catholic, Protestant, Liberal, Modernist, or of any other variety); by the innumerable metaphysical sects, including the Kantian, the Hegelian, the Bergsonian, and not excluding the positivistic sects of Comte, Spencer, and other eminent writers too numerous to mention; by the faiths of *solidaristes,* humanitarians, anti-clericals, and worshippers of Progress; and by as many other faiths as have existed, exist, or can be imagined. Equally remote from the field of experience are Jupiter Optimus Maximus and the Jehovah of the Bible; the God of the Christians and Mohammedans and the abstractions of the neo-Christians; the categorical imperative, and the goddesses Truth, Justice, Humanity, Majority; the god People and the god Progress, and as many other gods as people in such infinite numbers the pantheons of theologians, metaphysicists, positivists, and humanitarians. That does not mean that belief in some of them or even in all of them may not have been beneficial in its time, or may not still be. As to that nothing can be said *a priori*—experience alone can decide.

The metaphysical ethics of the European *bourgeoisie* has of late been assailed and weakened by the metaphysical ethics of Socialism,

which in its turn is now under fire from the metaphysical ethics of Syndicalism (§ 2002). Out of all this battling one thing has developed to draw people closer to an experimental attitude towards all such ethical systems: more or less distinctly people have become aware of their contingent character. *Bourgeois* morality, in view especially of the support it had in religion, was assuming a pose of absolute truth and that pose it has lost in the course of the past century after its many brushes with those fortunate rivals.

617. In the natural sciences the religious and metaphysical disintegration is still going on, with mere oscillations backward or forward, due to the fact that scientists too live in society and are more or less swayed by the opinions, beliefs, and prejudices prevailing in it. Experience, which once began timidly to lift its voice in the natural sciences, is now lord and master within them and ruthlessly banishes any *a priori* principles that try to assert themselves against it. Such scientific freedom seems to us an altogether natural thing because we are living in an age in which it is almost everywhere unrestricted. But we must not forget that down to two centuries ago, and less than that, a scientist could not discuss his science without first protesting that he was using experience only on matters irrelevant to faith. At that time it was wise on his part to take that subordinate position, since it was the only way to get a foothold within the fortress that was soon to fall.

618. The freedom enjoyed in the natural sciences is not yet enjoyed in sciences that have any bearing on social life. Save in the case of the religion of sex[1] the secular arm no longer reaches the heretic and the unbeliever—at least directly. But he is handed over to popular indignation and hostility, which ever rise to safeguard this or that principle or prejudice—a thing oftentimes promotive of the well-being of society. Indirectly public authority still makes the weight of its hostility felt by those who depart from the dogmas of existing governments even on strictly scientific matters.[2]

618 [1] *Cf.* Pareto, *Le mythe vertuiste.*

618 [2] For such reasons many Italians have had to live in foreign countries. In Prussia Socialists are barred from teaching in universities. In France dissidents from the Radical-Humanitarian religion are persecuted in every way—so the chair

619. The "historical" method opened the door for experience to make its way into some of the sciences from which it had been barred, and so served as a transition, beneficial from the strictly logico-experimental point of view, for bringing sociology closer to the level already reached by the natural sciences. Curious the confusion still obtaining in the minds of many people as to the "historical" and "experimental" methods.[1] The historical method, when it is—as it seldom is—genuinely historical and has no intermixture of metaphysical, sentimental, patriotic, and other similar reflections, is just a part of the experimental method. Its object is to study some

of Assyriology was refused to Father Scheil, one of the foremost authorities in that field. Of him De Morgan writes, *Les premières civilisations,* p. 36: "In Europe today hardly four or five scholars of real authority are to be counted in the field of Assyriology, and among them is Fr. Scheil. . . . His name will always be associated with his masterly translation of the laws of Hammurabi and his deciphering of the Elamite texts, a feat he accomplished without the help of a native interpreter." A chair at the Collège de France was withheld from Father Scheil on the pretext that as a priest he would lack the impartiality required for dealing with subjects connected with biblical history. But then, with no regard whatever for the glaring inconsistency, that excuse was tossed aside when it came to providing a chair in the history of religions for the ex-priest Loisy, famous for his bitter attacks on Catholicism. One may suspect that in the two parallel cases it was a question first of punishing an enemy and then of rewarding a deserter from the hostile camp. Mme. Curie was rejected by the Académie des Sciences for considerations in no wise scientific.

619 [1] Maine, *Ancient Law,* pp. 2-3, asserts that the Homeric poems contain hints as to the primitive forms of concepts of law (italics mine): "If by any means we can determine the early forms of jural conceptions, *they will be invaluable to us* [a]. These rudimentary ideas are to the jurist what the primary crusts of the earth are to the geologist [b]. They contain, *potentially,* all the forms in which law has subsequently exhibited itself [c]. The haste or the prejudice which has generally refused them all but the most superficial examination, must bear the blame of the unsatisfactory condition in which we find the science of jurisprudence [d]. The inquiries of the jurist are in truth prosecuted much as inquiry in physics and physiology was prosecuted before observation had taken the place of assumption [e]. Theories, plausible and *comprehensive* [f], but absolutely *unverified,* such as the Law of Nature or the Social Compact [g], enjoy a universal preference over *sober* research into the primitive history of society and law [h]; and they obscure the truth not only by diverting attention from the only quarter in which it can be found, but by that most real and most important influence which, when once entertained and believed in, they are enabled to exercise on the later stages of jurisprudence [i]."

The passage contains a mixture of sound and unsound assertions. It may be in-

of the relations arising in the experimental domain; in other words, it deals with "evolution," with the manner in which certain facts succeed other facts in time. But still to be discovered are the relations obtaining at a given moment between simultaneous facts, and the uniformities in those relations; often also the relations between facts successive in time and their uniformities; and almost always, finally, the interdependences of all the elements.

When I know that grain comes from the wheat-plant, and the history of the wheat-plant, and also know the origin of man and the history of mankind, I still have to find out how much wheat the human being raises on an acre of land in a given territory at a given time, and the countless relationships arising between the growing of wheat under those conditions and the other facts of human life. When I know the history of money, I have no very exact idea as to the functions of money in economic life and much less as to the correlations between the use of money and other economic and

structive to separate them, since the example will serve for other similar cases. a. [Pareto's remark is based on a free translation of Maine by Courcelle Seneuil (p. 3), who rendered "they will be invaluable to us" by *ce sera au moyen de ces poèmes*. The remark as a whole, however, applies to Maine's general position. —A. L.] Doubtful statement. The Homeric poems are extensively rewritten. There are now people who claim that they are not archaic at all. See Bréal, *Pour mieux connaître Homère,* p. 5: "I am trying to show that the Greek epic belongs to an age of humanity that is already far beyond childhood and represents a civilization in no sense primitive." I confess that I am not at all convinced by Bréal's argument, but someone else might be. On what shaky foundations, therefore, would Sumner Maine erect the whole science of jurisprudence! This objection is of general bearing and valid for all cases where there is an effort to explain the well-known by the little-known. b. Granted. But the analogy has to be carried further. The complete history of the Earth would not give us the composition of a rock—the help of chemistry is needed. c. The expression "potentially" is purely metaphysical: it serves merely to adulterate an argument that the author would have strictly experimental. d. Very true, and equally valid for economics and sociology. e. *Idem*. f. [Pareto's remark falls. It is based on a mistranslation by Seneuil of "comprehensive" as "comprehensible" (*intelligible*).—A. L.] Comprehensible, yes, because in accord with sentiments—but not in accord with experience. Maine would have stressed this important distinction if, instead of thinking strictly of the historical method, he had given a thought to the experimental method. g. Not only is verification wanting; the language in those theories corresponds to nothing real. The same error as in f. h. For "sober research" one should say "experimental research." i. Very true, provided the remark refers to the experimental method. [The Homeric idea in (*a*) belongs not to Maine but to Vico, *Scienza nuova,* I, 2, 20.—A. L.]

social factors. If I have a thorough knowledge of the history of chemistry, it may help me to learn, but it will never directly yield, the chemical properties of new chemical combinations (§§ 34, 39).

In political economy or sociology, the so-called historical method, even if by some rare chance it be genuinely so, cannot be thought of as antithetical to the metaphysical method. The experimental method can.

620. Theologies not seldom offer prophecies and miracles as pseudo-experimental proofs, each religion, of course, considering its own prophecies good and its own miracles genuine, while holding the prophecies of other religions disastrously unreliable and their miracles frauds.[1] One need hardly observe that even if the facts were historically verifiable, as they never are, they would prove nothing from the experimental standpoint as to the supernatural portions of a religion. The reason why prophecies, even when they can be said to have come true by a prodigiously far-fetched interpretation, and miracles, even when unsupported by any valid historical proof whatever, serve so effectively to corroborate faith, lies not at all in their logico-experimental probability, but rather in the increased prestige that such things, be they fact or fable, confer upon their alleged authors.[2]

620 [1] Tertullian, *Apologeticus,* XX, 1-3: "And further . . . we offer the majesty of the Scriptures, if we fail to prove their divinity by their age, or if their age be doubted. [Authority guaranteed by antiquity.] . . . The evidence stands before our eyes—the world, all humanity, all history (*mundus et saeculum et exitus*). Whatever now happens was foretold of yore; whatever we now see with our eyes was then heard of human ears [As usual, no proof is given; for proofs, certainly, the generalities following can hardly be called.]: the fact that the earth swallows up cities; that the seas steal islands away; that wars civil and foreign destroy; that nation clashes with nation; that famine, pestilence, earthquakes (*locales quaeque clades*) and great slaughters devastate; that the lowly are exalted to high places, and the mighty abased." It took no special powers to predict such things, which were of everyday occurrence in those times. Apollo in his day had been much more definite: he told Croesus and Pyrrhus flatly that they were going to be whipped, and he hit many other nails squarely on the head.

620 [2] Draper, *History of the Conflict between Religion and Science,* p. 66: "Of this presumptuous system [Christian dogma], the strangest part was its logic, the nature of its proofs. It relied upon miracle-evidence. A fact was supposed to be demonstrated by an astounding illustration of something else! An Arabian writer, referring to this, says: 'If a conjurer should say to me, "Three are more than ten,

621. Miracles have always been common and are still common in our own day, as witness telepathy and similar arts. Nor is there any lack of contemporary religious prophets, especially in England and the United States. On a less exalted plane, the fourth pages of Italian newspapers often carry the predictions of certain prophets who, out of ardent love for their fellow-men and not without an eye to personal gain, make known to the public the numbers that are going to be drawn in coming lotteries. Such advertisements have been appearing for a good thirty years to my knowledge, and there must still be people who believe in them; for it costs money to print them, and if receipts did not at least cover expenditures, those estimable seers would certainly go out of business.

622. We are living in a rather sceptical age. Prophecies of lottery drawings, further, do not admit of ingenuities in interpretation, and the time elapsing between utterance and failure or fulfilment is very short. If in spite of these very unfavourable circumstances faith in such prophecies still endures, with all the more reason should a similar faith have flourished active and strong in ages of superstition, when prophecies were uttered in obscure terms allowing of any conceivable interpretation and when fulfilments could be deferred till Kingdom Come (§ 1579).

623. Says Galluppi in his *Natural Theology:* "If God really sends men of His choice to preach to others in His name truths that He has revealed to them directly, He does not fail to give such apostles and envoys all the means necessary for demonstrating the genuineness of their mission [Principle of authority]. God owes that much to Himself who sends them, to the apostles whom He sends, and to the people to whom He sends them. [Proof by general conformity of sentiments; Galluppi thinks so, hence everybody else must think so, and so it must be]. But what are those means? They are prophecies and miracles. . . . Prophecy is the certain prediction of future events

and in proof of it I will change this stick into a serpent," I might be surprised at his legerdemain, but I certainly should not admit his assertion.' Yet, for more than a thousand years, such was the accepted logic, and all over Europe propositions equally absurd were accepted on equally ridiculous proof."

that cannot be foreseen by men from natural causes. . . . God can therefore bestow on His apostles the gift of prophecy, and the gift of working miracles in His name. When those who announce themselves as apostles of God reveal to men dogmas that are not contrary to the principles of right reason [Right reason here serving as a shield against the pagans, who also had miracles and prophecies in plenty; but theirs were contrary to the principles of right reason, the Christian are not. Why? Ask Old Mother Hubbard.], and which tend to the glory of God and the happiness of mankind, and perform miracles to vouch for the truth of the doctrine they proclaim, they have abundantly proved their mission, and the people to whom they preach are in duty bound to receive them as divine and to hearken to the truth that they reveal. . . . Strictly speaking, prophecy itself is a miracle, for it is not natural knowledge, but a knowledge transcending the natural powers of the human spirit. But the prophecy may relate to events far distant in the future, and the prophet may lack the gift of other miracles. Prophecy alone is not therefore always sufficient to prove divine mission. But the miracle with which a divine apostle promises men to prove his mission divine is always conjoined with more or less prophecy. . . . The signs of divine revelation are therefore three: the one, intrinsic, and it is the truth and the sanctity of the doctrine that it teaches [Accord with certain sentiments]; the two others extrinsic [Pseudo-experimental], and they are miracles and prophecies." [1]

623 [1] *Elementi di filosofia,* Vol. VI, pp. 100-03. Says the *Dictionnaire encyclopédique de la théologie Catholique, s.v. Foi* (Wetzer, *s.v. Glaube*): "What then is the series of facts, what the cumulation of reasons, what the army of witnesses, that establish the Christian's conviction when he asserts that Jesus of Nazareth was the Sent of God, nay, God Himself? They are prophecies, miracles, the personal experience of each Christian [Tautology: the believer proves merely that he believes.], the general history of the world [The proof by prophecies and miracles is a concession to experience.] Meantime, the faith of the Christian has a further foundation that surpasses any other in depth and scope [The metaphysical proof superior by nature to experience.]: the inner experience of truth that comes to any human being who follows evangelical doctrine and the heavenly commandments." And lo, along come the Modernists and turn that very argument against the Catholics, who, to defend themselves, have to appeal to tradition and history! The "categorical imperative" is likewise a product "of the intimate experience that comes to any human being who follows the Kantian doctrine and the commandments of

624. Calvin will have it that Scripture bears within itself every evidence of divine inspiration. In other words he seems to appeal only to faith; and if he held to that ground, experimental science could raise no objections to his doctrine on the intrinsic side.[1] Extrinsically, however, it proves nothing and can be accepted only by people who already believe in it. From the experimental standpoint Calvin's yes exactly balances the no of any one of his opponents.[2] But he, good soul, does not see it that way, and he is soon reclaiming what he has given away.[3] That is customary with theologians and

Pure Reason"; but it proves nothing to a person who cares not a fig for Kant and his "pure reason." Here we have another very pretty tautology: *"History:* the limit of the Christian's certitude is the unity of Christian doctrine, a unity established over a period of two centuries and in the face of countless obstacles." The certainty of certainties is that there have been differences of opinion among Christians at all periods of history. If we call one such opinion orthodox and the others heretical, we can assert the continuous unity of the faith, having barred in advance everything that made it multiplex.

624 [1] *Institutions de la religion chrestienne,* I, 7, 5 (Allen, Vol. I, p. 85): "So let this point be considered settled: that only he whom the Holy Spirit has enlightened can rely on the Scriptures in wholeness of trust; for though it carries its credibility within itself for being accepted without rebuttal and without proof or argument [Here we are outside the experimental field, and with a vengeance.], it is nevertheless by its own testimony that Holy Writ possesses the certainty it deserves. Albeit of its own majesty [But suppose someone fails to see the majesty?] it has enough to command reverence, it begins, nevertheless, really to stir us when it has been sealed in our hearts by the Holy Spirit. [Without so much beating about the bush he might have said that those who believe it believe it.] So enlightened of the Holy Spirit, we believe that Scripture is of God, not by any judgment of ours or of anyone else, but above and beyond all human judgment we decide indubitably that it has been given us from the very mouth of God through the agency of men. . . . And then we no longer look for arguments or plausibilities on which to base our judgment, but subordinate our intelligence and judgment to it as to something exalted above the necessity of being judged." What a talkative soul! Calvin could have said all that in many fewer words. But he talked and talked, because it was a music altogether to the liking of his public.

624 [2] Gousset, *Théologie dogmatique,* Vol. I, p. 156: "First Rule: Scripture must be interpreted not just by reason, as the Socinians and modern rationalists contend; not by direct revelations, as enthusiastic believers have imagined; and not by special personal succour of the Holy Spirit lent to each individual, as Lutherans and Calvinists insist; but following the teaching of the Catholic Church." In other words, the metaphysical principle is replaced by authority. They both lie outside the province of logico-experimental science.

624 [3] Calvin, *Op. cit.,* I, 7, 4 (Allen, Vol. I, p. 84): "All the same, those who insist on trying to support the trustworthiness of Scripture by disputation are

metaphysicists. They quit the experimental world when experience blocks the path they are bent on following to establish their beliefs; but once they have done that, back they come to it; for after all it is as important to them as to anybody else, their pretended disdain for it being only an artifice for ridding themselves of objections that they cannot face.

625. Calvin was annoyed at the glimmer of experience that Catholics found in the consensus of the Church Fathers, and he gets rid of it by pretending that every man must believe in Scripture by inner persuasion. And if someone is not so lucky? He will roast him for you at the stake, as he did poor Servetus, or, if he can do nothing better, vilify him.[1] These may be excellent methods of persuasion, but their logico-experimental value is exactly zero.

perverters of good order. There will, to be sure, always be enough to answer our enemies with; and for my part . . . if I were called upon to join issue with the slyest despisers of God one might imagine, with all those who would fain be thought of as clever and entertaining hair-splitters to the overthrow of the Scriptures, I should hope I would not find it difficult to quash all their cackling; and if it were worth while to refute all their lies and insincerities, it would be no great trouble for me to show that the conceited nonsense which they put forward in bad faith is so much humbug." Just earlier he had said: "If I saw fit to debate this issue by reasons and arguments, I could adduce not a few things to prove that if there is a God in Heaven, the Law and the Prophets have come of Him. Even if all the scholars, and the cleverest in the world, were to rise on the other side and apply all their wits to assert themselves to the contrary, they could be forced to admit—unless they were hardened to a desperate impudence—that it is evident from manifest signs that God doth speak through the Scriptures." In that way one can prove anything one pleases. People who do not see things as Calvin does are "hardened to a desperate impudence." People not so impudent as that, therefore, see things as he does. And there are plenty of people who applaud arguments of that kind.

625 [1] In the one chapter above quoted, I, 7 and 8 (Allen, pp. 81-82, 84, 94-95): ". . . those sacrilegious villains (*vileins sacrilèges;* Latin version: *sacrilegi homines*) who have no other purpose than to erect an unlimited (Latin: *effrenatum*) tyranny under the fair name of the Church. . . . It is a silly dream on the part of those muddlers (*brouillons; eiusmodi rabulae*) that the Church has the power to pass judgment on Scripture. . . . As for those rascals (*canailles; hominum maledictis*) they ask how and by what we are persuaded that Holy Writ emanates from God. . . . It is easy to see how silly and wicked (*sotte et perverse; quam perferam et calumniose*) such an application is. . . . But even after we have upheld the sacred Word of God against all the protests and disparagements of these wicked people . . . I am well aware that this or that muddler (*brouillon; nebulones*) is forever cackling (*gazouiller; obstrepant*) to the effect that . . . A point these rascals make on the authority of the Book of Maccabees." In just such terms

626. Neo-Christianity nowadays seems inclined to put these extrinsic elements more or less, or perhaps entirely, aside and to pin its faith to the intrinsic elements strictly. In so doing it would be greatly improving its logical position, provided, after once deserting the experimental field, it did not try to get back to it again and begin dictating norms for the regulation of social life. On that basis proof is nothing more than mere accord with the sentiments of the preacher; but no one explains why and how dissenters have to listen to him. As a matter of fact, the success of neo-Christian doctrines is due altogether to their accord with democratic sentiments; they are the garb in which certain people—not so very many—see fit to disguise humanitarian sentiments.

627. In such doctrines there is a sincere belief, or in some cases a pretence, that great importance is being attached to experience. But in reality there is simply a shift from our A-α1 variety to A-α2.[1] Authority is dropped because it is too apparently in conflict with experience, and replaced by inner assent because its conflict with experience is less apparent—though not less profound.

Senator Bérenger denounces to the public prosecutor in France adversaries whom he is not the man to silence by argument.

627 [1] Fulliquet, *Les expériences du chrétien,* pp. 202-03: "The needs of the Reformation period, and their being forced to join issue with the Catholics, led the Reformers to lay great stress on the value of the Bible, as the only authority at all widely recognized on the other side capable of being set up against the traditonal authority of the Church. [Here Fulliquet is remaking history a little to suit himself.] Ostensibly the Reformers halt at replacing the Church with the Bible without changing the Catholic conception of faith—the acceptance and support of doctrine by trust, not in the Church now, but in the Bible. . . . But faith is no more trust in the Bible than it was trust in the Church. Faith is not acceptance of dogma. Faith is the trust of the heart in God and in Christ. Save that, as regards faith, the Bible has a fundamental rôle to play: the Bible places religious experience within our reach in the persons of servants of the Lord who have had it in the past. The Bible remains for ever, not authority, which in this domain means nothing, but the supreme influence in matters of faith. The Bible has no authority whatever in matters of belief [So Fulliquet is rid of the discrepancies, great and numerous, alas, between Scripture and the facts.], for belief never is and never can be anything more than an expression of the experiment of faith, of the life of faith." Fulliquet's persistence in calling "experiment" a thing that has nothing to do with the experiment of the natural sciences is designed, unwittingly it may be, to take advantage of the sentiments of approbation that attach, in our day, to the physical sciences.

628. Piepenbring, for instance, after admitting and illustrating errors in the Bible, thinks none the less that there is a divine element in it; and to distinguish the divine portion from the non-divine he is constrained to appeal exclusively to inner consensus. Says he:[1] "Is it possible to distinguish human elements in the Bible from divine elements, human errors from divine truth? Is it possible to say that such and such a word in the Bible or such and such a biblical reading is inspired and that another is not? No! That procedure would be quite mechanical and superficial; it would, furthermore, be impracticable. It is not in the dead letter, as that doctrine would have it, that we are to seek inspiration and revelation, but in the direct action of the spirit of God upon human hearts. [A good illustration of the shift from our A-α1 to A-α2.] . . . We have just shown as an undeniable fact that that part of Scripture contains errors. Anyone applying himself exclusively to textual criticism, instead of essaying, as we have done, a historical reconstruction of biblical teaching as a whole, would be able to find errors far more numerous than the ones casually noted here. . . . The fact that we have put forward is therefore fully established. But there is another fact that, as it seems to us, is no less fully established, namely, that the better elements in the Hebrew nation, foremost among whom stood the Prophets, the Psalmists, and the sacred writers in general, were under the influence of the spirit of God, which imparted to them a higher life and light, of which we have the expression, the translation, imperfect but real, in the Old Testament."

629. It may well be that the two facts are equally certain, but it is also certain that the proofs which may be offered for them are essentially different in character. For the first fact, that is, for the historical and physical inaccuracy, objective proofs may be adduced that may be verified by anyone; for the second fact, the only proofs available are subjective, and they are valid only for those few individuals who happen to share the writer's sentiments. Anyone inclined to go to the trouble may prove that Jacob's method of pro-

628 [1] *Théologie de l'Ancien Testament*, pp. 307-08.

ducing speckled lambs with his many-coloured coat[1] does not work, and it is not necessary to be blessed with certain sentiments to find that biblical zoology does not square with the facts. On the other hand there are any number of people who in no way share Piepenbring's admiration for the prophets of Israel and who consider "lower" the enlightenment that he deems "higher." How are we to decide who is right—in fact, what does "being right" mean in such a case?

630. Apparent from all that is the magnitude of the error of regarding these modern doctrines and others of their kind as "more scientific" than, for instance, Catholic doctrines based on authority (§§ 16, 516). In reality it is a question of different ways of appealing to what is presumed to be—and is not—science. The difference is a general one, and appears in many other theories. Some ask their verification of historical reality and twist it about to mean anything they wish it to mean. In one sense they may be said to be paying tribute to the importance and dignity of historical reality in that they invoke its aid. In another sense, they may be said to be disrespectful to it in—not deliberately, but unwittingly—interpreting and distorting it. Other theories disregard verification by history, and place their whole reliance on inner conviction. In one sense they may be said to be belittling the importance of historical reality by ignoring its force as proof. In another sense, they may be said to be respecting it, in that they do not presume to interpret and distort it.

631. A-γ: *Great importance is attached to experience, or there is a pretence of doing so. However, it is always in a subordinate rôle.* The transition from our A-β variety to A-γ is by imperceptible degrees. In A-γ experience is apparently sovereign—but it is the sovereignty of a constitutional king and amounts to very little. In the concrete, theories generally have elements belonging to both the

629 [1] [Pareto apparently confused in memory the striped rods of Jacob (Gen. 30:37-43) with the many-coloured coat of Joseph (Gen. 37:3). Having bargained with Laban for the spotted lambs, Jacob made the sheep conceive among hazel, chestnut, and poplar rods "pilled" with "white strakes," and they "brought forth cattle ringstraked, speckled, and spotted."—A. L.]

A group and the B group, and it is difficult to separate them because a writer may not disclose, in fact oftentimes does not himself know, whether this or that of his principles is superior or subordinate to experience. To avoid a double examination of the same theory we shall therefore speak of this variety A-γ in the next chapter, where we are to study B theories.

632. We do that for practical reasons only, and it in no way impairs the theoretical value of our criterion of classification. It might seem that the mere fact as to whether the sovereignty assigned to non-experimental principles be explicit or implicit were not sufficiently important to warrant a distinction by genera. Instead, the fact is of capital importance, for if the sovereignty in question is stated explicitly, the doors are shut against experience, whereas they stand open if it is left implicit. In Spencer's ethical system, *a priori* principles figure; but they are left implicit, and there is nothing therefore to hinder us, in following Spencer's lead, from rectifying them and so arriving—after a long detour, it is true—at a scientific theory. On the other hand, in the system of ethics that our humanitarians are trying to set up, there are principles which explicitly transcend experience—the principle, for instance, that everything must be sacrificed for the "good of the greatest number." It is impossible to imagine how a proposition of that kind could be verified by experience. Experience, therefore, can in no wise serve to correct it. It is an article of faith that transports us to a field entirely alien to experience.

CHAPTER V

Pseudo-scientific Theories

633. B (§ 575). The interposition of non-experimental principles, which was patent and explicit in group A, is more or less dissembled and implicit in group B. Theories are not logico-experimental, but there is an effort to make them appear so. There are cases, to be sure, where they may actually be—cases where the non-experimental element can be eliminated without materially altering results. If that is not possible, the theory cannot be classed, even in amended form, with the logico-experimental variety.

634. Here we are considering the B theories chiefly, for the purpose of segregating the logico-experimental element from the non-logico-experimental. The inquiry is important in two respects: 1. Such theories overlie facts that have been distorted; if we can manage to isolate the logico-experimental element, we ought to be able to get at the facts in their real form. 2. In case perchance the non-experimental element in a theory proves to be merely incidental, we can eliminate it and so get a logico-experimental theory.

635. Suppose, then, we have before us the statement of a theory, the text of a narration. We may envisage the two following problems:

1. Assuming that in the statement a part, small or large, is played by metaphysical or arbitrary inferences, by myths, allegories, and so on, can we get back from the author's language to the ideas he was really intending to express, to the facts he meant to describe, to the logico-experimental relations he was trying to formulate—and if so, how?

2. What possible procedures are there to arrive, through the use of such metaphysical or arbitrary inferences, myths, allegories, and the like, at certain conclusions that are desired in advance?

636. The situation can be better visualized in form of a graph.

Case 1: We have a theory T (Figure 12), which is assumed to

picture certain facts *A*—a statement *T* presumably originating in the facts *A*. *T* we know. Our purpose is to determine *A*. If our effort is successful, we shall be following the line *TA:* starting with the statement *T*, we get to *A*. But, if our venture—quite without design on our part—chances to fail, we get not to *A*, but to *B*, and imagine, though mistakenly, that *B* is the source of *T*. A procedure quite analogous is followed by modern scholarship in trying to reconstitute an original text from a variety of surviving manuscripts. The desired original would be *A*. The various manuscript versions form the complex *T*.

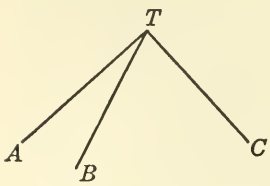

Figure 12

Case 2: From the statement of a theory, or a text, *T*, the idea is to draw certain conclusions, *C*, which are generally known in advance. One starts with *T* and through inferences of a non-logico-experimental character, one gets to *C*.

In the first case the quest is for *A;* in the second case, the quest is not for *C* (*C* being already known), but for a way of getting to *C*. Sometimes that is done deliberately: A person knows perfectly well that *C* does not follow from *T*, but he thinks it desirable to make it seem to. That would be a deceit, a trick, a logical action—one person trying to persuade another of a thing he knows to be untrue. But more often, much more often, the search for a road that will lead from *T* to *C* is not consciously premeditated. The investigator believes in *T* and keenly aspires to the ideal *C*. Quite without conscious design he brings the two sentiments together over the path *TC*. In that case we get a non-logical action. The person who is trying to persuade others has first of all persuaded himself. There is no trickery.

In the first case (the quest for *A*), though accords of sentiment are often exploited, there is the assumption at least that logico-experimental deductions are being used; and they are really used in the sciences. The route *TA* (or, in case of a mistake, *TB*) is therefore assumed, or at least is ostensibly assumed, and the search is for *A*. In the second case, where the search, deliberately or unconsciously,

is for the route *TC*, though it is the pretence, and very often the sincere belief, that the logico-experimental method is being used, what more often is actually used is an accord of sentiments. The search is for a route *TC*, which will have the double advantage of leading to the desired goal *C*, and of being palatable to the people one is trying to win.

All that is seldom apparent. The two problems are not explicitly differentiated and the search for the path *TC* is represented in all sincerity as a quest strictly for *A*. As usual the non-logical action is given a varnish of logic. Suppose *T* stands for the text of the Gospels. We may seek the facts *A* that gave rise to them—and that would be a task for historical criticism. But the person who is not using historical criticism, or not using it strictly, is trying to derive from the Gospels certain principles of his own morality, or of the morality which he has in some way or other made his own, and therefore is using an *interpretation TC* suitable for getting him to the desired goal. He knows in advance that he is to believe in *T* and in *C*. Those two termini are fixed. The problem is simply to find a way to bring them together.

637. In the present chapter we shall deal chiefly with the first case (the quest for *A*), dealing with the second in Chapters IX and X. We say chiefly, and not exclusively, because in concrete cases elements corresponding to both problems are usually combined in varying proportions, and we should therefore be involving ourselves in long and wearisome repetitions if we tried to keep such elements strictly segregated in each concrete case and dealt exclusively first with one and then with the other.

638. In the logico-experimental sciences we first follow the line *AT* and formulate a theory from the facts; and then the line *TA*, deducing predictions of fact from theory. In literary productions involving departures from the logico-experimental method, the line *TB* is on occasion followed, but nearly always it is the line *TC*. *T*, moreover, is ordinarily indeterminate and will yield almost anything desired. Often, also, the line *TC* has very little to do with logic. In

a word, from a sum of indefinite sentiments *T* one infers anything that happens to be desired—*C*.

639. Following the line *AT*, we proceed from the thing to a verbal term for designating it. Along the lines *TA, TB, TC* the procedure is from the verbal term to the thing. A sentiment prompting us to objectify our subjective sensations tempts us also to believe that in every case there must be some real object corresponding to any given term of language, *T*, and that therefore all that is needed is to find a way for locating it. There is the term "justice." There must therefore necessarily be something real corresponding to it; and people have sought high and low to find it. As a matter of fact, there are many terms *T* corresponding to sentiments held by one or more persons, but nothing more. Starting from *T* we may find those sentiments, but certainly not objects that have no existence.

640. A situation of very frequent occurrence is the following. From the sentiments *A* present in many people an indeterminate expression, *T*, is derived. Then a writer comes along and tries to draw certain conclusions, *C*, from *T*. *T* being indeterminate, he sees anything he chooses in it (§ 514), and then believes, and makes others believe, that he has attained an objective result, *C*. In reality he is accepting *C* only because *C* accords with his sentiments, *A*. But instead of following frankly the direct line *AC*, he follows the indirect line *ATC*, often a very circuitous route, in order to satisfy the need of seeming logical that he and other human beings feel.

Returning to our examination of theories as classified in § 575, let us see whether, and how, one can get back from them to the facts which they are assumed to represent.

641. B: *The extra-experimental origin of the abstract entities that are introduced is not explicitly stated.* For that matter, we must be resigned to finding metaphysical *a priori* principles explicit in this class, as well as in the A group, and rest satisfied with reducing them to as slight a rôle as possible. If we were to bar them altogether, we should have nothing, or almost nothing, left to put into the class we are here considering. In social matters such principles will creep

in by hook or by crook. That is the case not only because they correspond to very powerful sentiments in human beings, but also because such matters are almost never studied for the exclusive purpose of discovering uniformities, but in behalf of some practical purpose, some propaganda, some justification of an *a priori* belief.

642. *They are sometimes mere abstractions arbitrarily deduced from experience.* This is characteristic of the experimental sciences; and the ear-mark by which we can recognize such abstractions is that they may be dispensed with whenever we so desire. The whole science of celestial mechanics can be expounded without resort to the concept of universal attraction. The hypothesis that astronomers are trying to verify on the facts is that celestial bodies move in such a way as to satisfy the equations of dynamics. The whole science of mechanics can be expounded without reference to the concept of "force," the whole science of chemistry without once mentioning "affinity." As for political economy, we have shown that the theories of the economic equilibrium can be stated without resort to my term "ophelimity" (§ 61), to the term "value," or to the abstraction "capital" (§§ 117 f.). In these volumes on sociology we could substitute plain letters of the alphabet for the terms "non-logical actions," "residues," "derivations," and the like, and the argument would stand just as well without the slightest alteration. We are dealing with things and not with words, nor with the sentiments associated with words (§§ 119 f.).

We shall go no farther here into the character of these logico-experimental theories, the better to confine ourselves to the theories more or less at variance with them that have so far constituted social science.

643. B-α: *Myths, legends, and the like are historically real.* This is the simplest and easiest solution of the problem of getting from T to A—of getting back from a text to the facts in which it originated. It may be accepted in virtue of a fervid, unreasoning faith that prides itself on believing even *quia absurdum*. With that procedure, as explained in § 581, we need not concern ourselves. Then again, it

may be accepted on the same basis as any other historical account, and therefore as the consequence of a pseudo-experience, which would be identical with experience proper were the story subjected to severe historical criticism and to all the other experimental verifications required. The theories yielded by this solution differ from the theories of group A (§ 575) in that in the A theories the narration is enforced as an article of faith by some non-experimental power which generally is known on the authority of some individual (§ 583), and it is the interposition of such a power that provides the desired "explanation." In the present case, B-α, the theories are believed on their own pseudo-experimental evidence. From the scientific standpoint such a distinction is a vital one (§ 632). If a narration is presented as an article of faith, that alone is enough to banish it from the field of logico-experimental science, which has no longer any business with it as regards either acceptance or rejection. But if it is presented as vouching for itself on its own authority and obviousness, it is wholly within the domain of experimental science, and it is faith that loses all jurisdiction over it. That distinction, however, is seldom made by the person who believes such a narration, and it is very difficult to tell whether he is considering it merely as history or is believing it on some other ground. For that reason a great many cases, in the concrete, present mixtures of A theories and B theories. For instance, the authority of the writer himself is seldom missing, and it is a non-experimental element.

644. If the text we are trying to interpret were a historical narrative, we might in fact consider it as an at least approximative record of the facts with which it deals (§§ 541 f.).

645. Even in such cases, however, there are always some differences. Any account even of a very simple occurrence rarely represents it exactly. That has been shown over and over again by a favourite experiment of professors of criminology. Something is made to happen in the presence of witnesses, and they are asked to give an account of it in writing. As many slightly differing narratives are received as there are witnesses. A boy and an adult of lively imagination are made to witness something. If they are asked

to tell what they have seen, it will be found that each adds something to it, and in the direction of making it more striking or interesting than it was in reality.[1] The same thing is true when a person is repeating a story he has heard (§ 1568).

Another curious thing: Since it is the general practice to make such embellishments, people habitually discount what they hear, so that an incident has to be somewhat overdrawn in order to make an impression at all corresponding to reality. If you see nine people out of ten laughing, and you wish to convey to someone an accurate impression of such great hilarity, you say, "Everybody laughed." If you were to say, "Nine of them laughed and one did not," the impression would fall short of the truth.

646. To be altered, a story need not pass from mouth to mouth. It is altered even in a repetition by the same person. A thing once said to be large will become larger in successive accounts, and a small thing will become smaller. The dose is constantly increased, and always under pressure of the same sentiment.

647. Exact data are available to show how deceitful certain impressions are. Singular indeed our common illusions as regards quotations from certain authors. I have often heard Italians quote Dante (*Inferno,* III, v. 51) to the effect: *"Non ti curar di lor, ma guarda e passa."* Dante wrote:

Non ragioniam di lor, ma guarda e passa.[1]

645 [1] [In his *Memoirs,* published in 1823, Lorenzo da Ponte, describing the hardships of an ocean voyage, says that he crossed the Atlantic in eighty-six days. In his *Compendium,* published in 1807, he says he crossed in seventy days. I have shown on the documents that he crossed on the *Columbia* in fifty-seven days (*Memoirs of Lorenzo da Ponte,* Philadelphia, 1929, p. 353). The point is this. Interpreters of Da Ponte, such as Fausto Nicolini (*Archivio storico italiano,* No. 1, 1930), enumerate such inaccuracies in the *Memoirs* to prove that Da Ponte was a liar and general reprobate (logical conduct: misstatement with intent to deceive). And to the extent of that intrusion of moralistic attitudes, they are doing a sentimental gymnastic and producing pseudo-scientific criticism. I view Da Ponte, instead, as merely manifesting, as Pareto would say, the residue here in question (non-logical conduct: unawareness of realities through stress of a sentiment—§ 888, residue I-β2), and so I come closer to a scientific interpretation of the facts.—A. L.]

647 [1] ["Let us not speak of them, but look and pass" (Fletcher translation); "Let us not speak of them, but look and go" (Anderson translation).]

Many Frenchmen, says Fournier, think they are quoting Molière when they say,

Il est avec le ciel des accommodements.[a]

"The verse is perfect, but Molière did not write it. In fact to get such a verse we have to take the substance of two lines in Act IV, Scene V, of *Tartuffe:*

Le ciel défend, de vrai, certains contentements;
mais on trouve avec lui des accommodements." [2]

Mirabeau's famous phrase, "Go tell your master," *etc.,* he never uttered. The Marquis of Dreux-Brezé rectified the facts in the Chamber of Peers at its session of March 10, 1833. "Mirabeau said to my father: 'We are assembled here by the will of the nation, and we will not leave except by force.' I ask M. de Montlosier if that be not so." [3]

648. A national author is often less accurately quoted by his

647 [a] "There are ways of coming to terms with Heaven."

647 [2] *L'esprit des autres,* pp. 374-75. *Ibid.,* pp. 104-05: "I know people who would blush red with anger if I were to tell them . . . that the celebrated verse

'La critique est aisée et l'art est difficile'

is not in the *Art poétique* of their darling, Despréaux. . . . They will go over the verses of the four cantos of the poem, and indeed through all the works of the poet; and not only will they not find the line they are looking for but incidentally they will find quite a few to the opposite effect. . . . Never mind—they will not be beaten so easily. They will still hold that their beloved line is by Boileau and that it is in the *Art poétique* . . . because it ought to be there." [So nine people out of ten will say that the celebrated definition of comedy, *"Castigat ridendo mores,"* is by Horace in the *De arte poetica,* as in fact it "ought" to be. Instead it is by Santeul, a Frenchman of the seventeenth century. So the Lord's curse on Adam and Eve (Gen. 3:19) is regularly quoted "by the sweat of thy brow" instead of "in the sweat of thy face." For another example from Pareto himself, see § 1397[2]. —A. L.]

647 [3] Quoted by Fournier, *L'esprit dans l'histoire,* p. 229. Fournier says further in a note: "According to the report in the *Journal des débats* of that same day, Mar. 10, 1833, M. de Montlosier nodded in the affirmative. Bailly's *Mémoires,* published in 1804, Vol. I, p. 216, report Mirabeau's words neither as they are ordinarily quoted nor [as rectified in the House of Peers]. On the other hand, Noël's *Éphémérides,* June, 1803, p. 164, establishes the version of M. de Dreux-Brezé [thirty years before his time]." [The passage, however, is missing in the third edition of the *Éphémérides.*—A. L.]

fellow-countrymen, who generally repeat from memory, than by foreigners who take the pains to verify quotations on his text. Something similar may have happened with ancient Greek writers in quoting Homer.[1] Such quotations are often different from the texts of Homer that have come down to us, and the differences are commonly explained as due to textual variants in the original. All the same, there remain cases in which the divergences seem due to quotation from memory. Ancient writers did not feel the need of accuracy of which some writers, at least among the moderns, make a point. Even a few years back many passages were being quoted from authors without indications as to where they were to be found, and what is worse, opinions were credited to them without textual references. As late as 1893 Gomperz wrote his elaborate *Greek Thinkers* without a single quotation—everything had to be believed, like the Delphic oracle, on his unsupported say-so. The general custom in historical works nowadays is different. The works of Fustel de Coulanges, Marquardt, the *Manual* of Mommsen and the *Roman History* of Ettore Pais, are models in that sense. In each of them the author's object is to be as accurate and objective as possible and to support his assertions with sound proofs.

649. Divergences between facts and accounts of them may be slight or insignificant. But they may also increase, multiply, and become so elaborate as to end in stories that have virtually nothing in common with the facts. So we get fantastic tales, legends, romances,

648 [1] Dugas-Montbel, *Observations sur l'Iliade,* Vol. I, p. 139 (*Iliad* III, vv. 8-9): "Plato quotes v. 8 in his *Respublica* [III, 389e] with a slight change. . . . It is probable that Plato was quoting from memory, but it is also conceivable that at that time Homer's text was not what it is today. However Strabo [*Geographica,* XII, 8, 7; Jones, Vol. V, p. 495] quotes v. 8, and Aulus Gellius [*Noctes Atticae,* I, 11; Rolfe, Vol. I, p. 55], vv. 8 and 9, in texts identical with our modern editions." *Ibid.,* Vol. I, p. 213 (*Iliad,* IV, v. 431): "I have already remarked that in quoting Homer, doubtless from memory, Plato tied the beginning of this line to the eighth of Canto III of the *Iliad.* . . ." Vol. I, pp. 402-03 (*Iliad,* IX, vv. 591-94): "In quoting this passage [*Rhetorica,* I, 7, 3; Freese, p. 81] Aristotle does not give the exact text that appears in our editions. . . . Aristotle's Homer may have been different in some respects from ours. . . . All the same, my guess would be that the difference here . . . is due to the fact that Aristotle was quoting from memory, as we suspected in the case of Plato."

in which there is no telling whether there is any basis in fact, and, if so, what the facts were. Even writings that are not considered legendary and pass as historical may be so widely at variance with reality as to bear a very scant resemblance to it.[1]

If we follow in this connexion also the method indicated in § 547, we shall find examples in great abundance to show how cautious one has to be in accepting details in stories that are on the whole altogether historical. In the year 1192 Conrad, Marquis of Tyre, was assassinated in that city. His subjects, needing a lord and protector, insisted that Isabelle, Conrad's widow, should straightway marry Henry, Count of Champagne, even though she was with child. An Arab, Imad ed Din, tells the story thus, in the *Book of the Two Gardens* (Vol. V, pp. 52-53): "On the very night of the murder, Count Henry married the princess, widow of the Marquis, and consummated the union even though she was with child. But in the religion of the Franks that circumstance is not an obstacle to marriage, the child being ascribed to the mother. Such the law with that nation of infidels."

If nothing but that were known of the Franks, one might infer that they traced lineal descent through the female line and would so increase by one the number of peoples with a matriarchal system. Very likely not a few facts adduced in support of the general theory of matriarchy have no better foundations.

650. B-α1: *Myths and the like taken literally without change.* We get the type of this variety in the blind faith with which biblical narrative was for so long accepted, the Bible being regarded as simple history—for when it is taken as inspired of God, and the fact of

649 [1] One example from the hosts available—Hagenmeyer, *Peter der Eremite,* p. 2: "When one is confronted on the one hand with documents on the Crusades attributed to writers of the eleventh and twelfth centuries, and which must be taken as sources emanating from eyewitnesses, and on the other hand with narratives of the same events written at later periods, a comparison is sufficient to show that oftentimes the tradition has been completely changed in character. It is a thing that anyone can verify for himself. Nor is it rare even to find that the primitive narrative is hardly recognizable under the legendary frills with which the modern account has been decorated, so that if one had to depend on the latter alone, it would be hard to determine just how much history it contained."

inspiration is the reason for its acceptance as history, we get a theory of Class III-A.[1] Of the same type are the many legends that have been taken as history, such as the tales connected with the founding of Rome.

651. For many centuries every statement by an ancient writer was accepted as high-test gold. The more ancient the author, the more trustworthy the fact. Says Dante of Livy:

Come Livio scrive, che non erra.[1]

Today we stand dumbfounded that so many absurd stories could have passed for history for so many generations; and the fact that they did so serves to demonstrate the value of that universal consensus on which the metaphysicists so pride themselves.

652. Not less amazing is it to see men of great ability lending their credence to old wives' tales and prophecies—and that goes to show the scant importance that is to be attached to authority in such matters. It seems incredible—yet there stands the fact—that the great Newton could have written a whole book to show that the prophecies of the Apocalypse had been fulfilled. How ever could the founder of celestial mechanics have harboured such childish idiocies![1] But the case, however extreme, is not exceptional. Many

650 [1] [Pareto's cross-references grow a little complicated: Class III is isolated in § 523 (theories adding something to experimental reality). Of it the genera A and B, as distinguished in § 574 and analyzed in § 575, are subvarieties, the extra-experimental element being explicit in A, and in B, disguised or implicit.—A. L.]

651 [1] *Inferno,* XXVIII, v. 12: "As Livy writes, whose word we cannot doubt" (Anderson translation).

652 [1] *Observations upon the Prophecies of Daniel and the Apocalypse of St. John,* pp. 14, 46-48. Newton finds Daniel a most lucid seer: "Amongst old Prophets, Daniel is most distinct in order to time and easier to be understood." Daniel clearly prophesies the fall of the Roman Empire "on the ten kingdoms represented by the horns of the fourth Beast (Rev. 13). Now by the war above described the Western Empire of the Romans, about the time that Rome was besieged and taken by the Goths, became broken into the following ten kingdoms. . . ." He mentions the kingdoms of the Vandals and the Alans in Spain and Africa; the Suevians in Spain; the Visigoths, the Alans in Gallia; the Burgundians, the Franks, the Britons, the Huns, the Lombards; and the kingdom of Ravenna. And he concludes: "Seven of these kingdoms are thus mentioned by Sigonius . . . add the Franks, Britons, and Lombards, and you have the ten: for these arose about the same time with the seven."

people think soundly enough on certain subjects and as badly as can be on others, being sages in one sphere, idiots in others. Numberless the chronologies extant "from the year of the Flood," "from the year of the foundation of Troy," and so on. Glance, if you please, at the histories of Orosius, and see how he brings all sorts of stories together and presents them as veracious history—giving the exact dates for good measure! Everything is grist for his mill whether it come from the Bible or from the mythologies of the pagans, against whom meantime he is writing.[2]

653. Such chronologies were appearing as late as the year 1802, when, in long and erudite notes to his translation of Herodotus, Larcher records the dates of no end of legendary happenings. He devotes a whole chapter to fixing the exact year of the fall of Troy, prefacing it, Vol. VII, p. 290, with the remark: "I lay it down as an actual fact that that city was taken in the year 3444 of the Julian period, 1,270 years before the common era; and I will prove it in my chapter on that epoch." [1]

654. To some extent in ancient times, more frequently in the Middle Ages and even later, many peoples were tracing their origins back to the peregrinations of the Trojans. Guillaume le Breton relates in all seriousness: [1] "As we have learned from the chronicles

652 [2] *Historiae adversus paganos,* I, 2, 1: "*Item.* In the year 775 *ante u. c.* [What a pity he does not give the day and the month!] fifty parricides were committed in one night among the children of Danaus and Aegyptus, brothers." [The legend in its commoner form was that the fifty sons of Aegyptus were married to the fifty daughters of Danaus, who slew their husbands at their father's command. See Harper, *s.v. Danaides.*—A. L.] *Ibid.,* I, 17, 1: "In the year 430 *ante u. c.* come the rape of Helen, the conspiracy of the Greeks, and the assembling of the thousand ships, whence the ten years' siege, eventuating in the famous fall of Troy, is foretold." Clement of Alexandria, *Stromata,* I, 21 (*Opera,* Vol. I, p. 826B; Wilson, Vol. I, p. 423), along with other interesting information and chronology, locates at the time of Lynceus [*i.e.,* of the Argonauts] the rape of Proserpine, the foundation of the Temple of Eleusis, the invention of agriculture by Triptolemus, the arrival of Cadmus at Thebes, and the reign of Minos in Crete.

653 [1] In the same translation of Herodotus, Vol. VII, p. 576, Larcher notes for the year 1355 B.C.: "The women of Lemnos, enraged at the preference of the Lemnians for their concubines, make a general slaughter of their husbands." For the year 1354 B.C.: "Oedipus, son of Laius, marries Jocasta, without knowing that she is his mother, and ascends the throne."

654 [1] *Vie de Philippe Auguste,* pp. 184-85.

of Eusebius, Idacius, Gregory of Tours, and many others, and from the testimony of all the ancients, Hector, son of Priam, had a son called Francion. Troilus, son of the same Priam, King of Asia, also had, it is said, a son called Turcus. After the fall of Troy, the Trojans, most of whom had escaped, became divided into two peoples, the one of which chose Francion king and so came to be called Franks. The other named Turcus their chief, whence the Turks derived their name." [2]

654 [2] Guillaume continues, p. 185: "Leading his people, Francion reached the Danube, where he built a city called Sicambria, and there he reigned. . . . Two hundred and thirty years having passed [No more, no less!] twenty-three thousand of them [No less, no more!] left under the leadership of Hybor . . . and came to Gaul. Arriving at a very pleasant and convenient spot on the Seine, they built a city there and called it Lutetia, because of the mud (*lutum*) that filled the place, and they called themselves Parisians, from Paris, son of Priam; or rather [For Guillaume has a flair for historical criticism.], they were so called from the Greek word *parrhesia,* which means 'boldness.' And there they dwelt one thousand two hundred and sixty years." Dugas-Montbel, *Observations sur l'Iliade,* Vol. I, p. 298 (*Iliad,* VI, vv. 402-03): "The famous poet Ronsard went even farther [in the *Franciade*] than Racine [in *Andromaque*]; for he assumes that this very Astyanax went to Gaul, came to be called Francion, and founded the line of the Kings of France. . . . The story seems to originate in an alleged passage of Manetho (*Manethone sacerdote egittio*) quoted by Annio da Viterbo, the latter in his notes, p. 33, referring to the historian Vincent de Beauvais (*Vincenzo historico francese*) as his authority. Vincent claims that on the fall of Troy Astyanax wandered to the Gauls, married the daughter of the king, and succeeded his father-in-law on the throne. Many poets are far from basing their plots on such secure historical foundations." The story may go as far back as Lucan, *Pharsalia,* I, vv. 427-28: "The Arvernians [Gauls] have dared to pretend themselves blood-kindred to the Latian [Roman] as a people of Iliac [Trojan] stock." In the *Fragmenta* of Fredegarius, *Epitomata,* II (Migne, LXXI, p. 577c), the legend is well knit and already full grown. As late as the sixteenth century, a scholar of Étienne Pasquier's calibre hesitated to deny such nonsense, *Recherches de la France,* I, 14 (p. 37): "As regards the Trojans, it is certainly surprising that all the nations, as it were by common consent, consider themselves highly honoured to derive their ancient origins from the destruction of Troy. So the Romans call their first founder an Aeneas, the French, a Francion, the Turks, a Turcus, and the people of Great Britain, a Brutus, while the first inhabitants of the Adriatic call themselves after Antenor. . . . For my part, I should not dare flatly to contradict that opinion, nor for that matter assent to it without reservation. It seems to me a very ticklish business to argue about the remote origins of peoples; because they were so small in their first beginnings that the ancient writers took no pains to establish the facts, so that gradually the memory of them vanished utterly, or else took the form of pleasant and frivolous tales." [There is no reference to the adventures of Francion in the half-witted *Chronicon* of Idatius, at least in the text of that work published in the *Maxima bibliotheca* of Bigne.—A. L.]

655. In the year of grace 1829, at a time when Niebuhr's work had gone through three editions, the Saint-Simonians were still swearing by Numa.[1]

656. But specialists in Roman antiquities had for years been voicing their doubts. Clüver in 1624, Perizonius in 1685, Beaufort in 1738, Charles Lévesque in 1807, and finally Niebuhr in 1811, had gradually been drawing nearer to the point where the historical unsubstantiality of the ancient legends became apparent. Mommsen, and finally the Italian Ettore Pais, banished them from history for good and all. By that time Grote had done the same for Greece.

657. But human beings are not readily brought to discarding their legends. They try, at least, to save as much of them as possible. The method most generally used is to alter meanings in the parts that seem irreparably unacceptable in order to divest them of traits too conspicuously impossible.

658. Available in exceedingly large numbers are examples of words transformed into things or properties of things; and oftentimes a whole legend is built up around a single term loosely interpreted.[1] In the languages in which names of things have gender, male personifications come from masculine nouns, female from feminine nouns (§§ 1645 f.). It may chance to be possible in some

655 [1] *Doctrine Saint-Simonienne, Exposition,* 1854, p. 19: "Moses, Numa, Jesus—they all fathered peoples that are dead or are dying today."

658 [1] Taylor, *Words and Places,* pp. 264-70 (quoted by Menzerath, *L'Einfühlung, et la connaissance du semblable*): "Men have ever felt a natural desire to assign plausible meanings to names. . . . How few children, conning the atlas, do not connect some fanciful speculations with such names as . . . the ORANGE River or the RED Sea . . . [which are] supposed to denote the colour of the waters, instead of being, the one a reminiscence of . . . the house of Orange, and the other a translation of the Sea of Edom. . . . [In a note]: FLORIDA is not the flowery land, but the land discovered on Easter Day (Pasqua florida). . . . No cause has been more fruitful in producing corruptions than popular attempts to explain from the vernacular . . . names . . . known only to the learned. . . . [In a note]: A groom used to call Othello and Desdemona—two horses under his charge—Old Fellow and Thursday Morning. . . . The citadel of Carthage was called BOZRA, a Phoenician word meaning an acropolis. The Greeks connected this with *βίρσα*, an ox-hide, and then, in harmony with the popular notions of Tyrian acuteness, an explanatory legend was concocted, which told how the traders, who had received permission to possess as much land as an ox-hide would cover, cut the skin into strips with which they encompassed the spot on which the Carthaginian fortress was

cases to get back from the name to the thing; but we must take care to do that only when we have adequate proofs of the development from the thing to the name. To be sure, when we are looking for the meaning of a term there is always the temptation to alter it slightly and give evidence of our ingenuity by bringing out hidden implications and so drawing name and thing together. But past experience shows that that course has almost always led to error (§ 547), and the more certainly, the greater the talent and learning of the interpreter, who is tempted by his very endowments to try unbeaten paths. Going from the name to the thing is to retrace the path that has led from the thing to the name. The return trip may be made in some confidence only when our knowledge of the original development is more or less thorough.[2]

659. There is an analogous situation in etymology. The ancients derived their etymologies from verbal similarities that were often very superficial, and nearly always they went wrong. Modern philologists accept no etymology that fails to accord with the laws of phonetics: they refuse, that is, to retrace the path from word to etymon unless they are certain of the original development from etymon to word.

660. So we are left in doubt when someone suggests going back from the name Saint Venise to Venus, until we have some other

erected." (Menzerath: "The classic example is *Romulus,* as the founder of *Rome,* a form philologically impossible.") Taylor continues, p. 269: "The name of ANTWERP denotes, no doubt, the town which sprang up 'at the wharf.' But the word Antwerpen approximates closely in sound to the Flemish *handt werpen,* hand throwing. Hence arose the legend of the giant who cut off the hands of those who passed his castle without paying him black mail, and threw them into the Scheldt, till at length he was slain by Brabo, eponymus of Brabant. The legend of the wicked Bishop Hatto is well known. . . . At a time of dearth he forestalled the corn from the poor, but was overtaken by a righteous Nemesis—having been devoured by the swarming rats, who scaled the walls of his fortress on the Rhine. The origin of this legend may be traced to a corruption of the name *mautthurm,* or custom-house, into the MÄUSE-THURM, or Mouse-tower. . . . Near Grenoble is a celebrated tower, which now bears the name of LA TOUR SANS VENIN, the tower without poison. The peasantry firmly believe that no poisonous animal can exist in its neighbourhood. The superstition has arisen from a corruption of the original saint-name of San Verena into *sans venin.*"

658 [2] We shall discuss the matter at length in Chapter IX.

proof than the mere resemblance of the words. But the suggested relationship will become the more probable in proportion as we get surer evidence of the direct development from Venus to Venise. That is exactly the way Maury goes about it:[1] "The legend of Saint Venise, as recounted in the *De cultu vineae Domini* of Pierre Subert (1513), in a fragment attributed to Liutprand of Cremona, a tenth-century writer, and in the Dexter Chronicle, establishes her pagan and entirely 'aphrodisiac' origin, though we should look for her name in vain in the *Acta*."

We are not, for a contrast, able to accept the explanations of the birth of Orion offered by certain ancients, until we get better proofs of the original development.[2]

661. B-α2: *With slight and easy alterations in literal meanings.* Typical of this variety of interpretation is the method of Palaephatus in explaining legends—a method so easy and convenient that it can be used by anyone without the slightest difficulty.[1] We have

660 [1] *Croyances et légendes de l'antiquité,* p. 349.

660 [2] Clavier, *Bibliothèque d'Apollodore,* Vol. II, p. 49: "The story of Orion's birth is told at greater length by Homer's scholiast following Euphorion (*Iliad,* XVIII, v. 486; Dindorf, Vol. II, p. 171); Palaephatus, *De incredibilibus historiis,* 5 (Leipzig, pp. 36-39, Περὶ Ὠρίονος); Ovid, *Fasti,* V, vv. 493-536; and Hyginus, *Fabulae,* 195 (*Orion*), and *Poeticon astronomicon,* II, 34, 12 (Chatelain, p. 38). Jupiter, Neptune, and Mercury having been well entertained by Hyrieus, son of Neptune by Halcyone, daughter of Atlas, at Tanagra in Boeotia, where he was living, desired to give him evidence of their satisfaction. Hyrieus suggested the gift of a son. They therefore took the hide of the ox he had just sacrificed to them, went to one side, and into it did what, to use the words of Ovid, modesty forbids specifying further. They sewed up the hide, buried it, and at the end of ten months Orion came forth. He was first called by that name from the manner [ἀπὸ τοῦ οὐρῆσαι] of his engendering by the gods in the skin (*Etymologicon magnum,* 823). That bad etymology may have been the only basis for the story mentioned, which was an invention of fairly late poets. Hesiod, who was probably the source of Pherecydes, called him a son of Neptune and Euryala, daughter of Minos (Eratosthenes, *Catasterismi,* 3 [read 32, Schavbach, pp. 25, 58]; Hyginus, *Poeticon astronomicon,* II, 34)." And see § 691 [1].

661 [1] Our friend Larcher, in his notes to Herodotus (§ 653), takes what Palaephatus says quite seriously, *Op. cit.,* Vol. III, p. 494 (on Herodotus, IV, 75): "Medea introduced the use of hot baths into Greece (Palaephatus, *De incredibilibus historiis,* 44). Her use of cauldrons and fire gave the impression that she rejuvenated people by boiling them, and all the more readily in that she kept her method secret so that the doctors would not learn of it. Pelias was suffocated by the steam in his bath."

already alluded to it as one of the means for dissembling non-logical conduct (§ 347). The legend is kept, literally, but the meaning of the terms is altered just enough to eliminate everything implausible.

Familiar to everyone is Hesiod's vivid description, *Theogonia,* vv. 617-735, of the battle between the descendants of Cronus and the Titans, and there can be no question of his intending to do anything more than tell a simple story. The gods had Briareus, Cottus, and Gyges on their side. Each of these giants had a hundred hands and fifty heads. Palaephatus gets out of the hole as follows: "It is said of them that they had a hundred hands, though they were men. How else but call that nonsense? But the truth is this: they lived in a city named Hundredhands, situated in the region now called Orestis. Hence people called Cottus, Briareus, and Gyges the Hundred-handers. On appeal of the gods, they drove the Titans from Olympus." [2] The legend of Aeolus is readily turned into history by making him an astrologer who furnished weather forecasts for Ulysses.[3] It was said that the Chimaera was a lion in front, a goat about the middle, a dragon behind. But that would be impossible: a lion and a goat could not get along on the same fodder! The truth was that the Chimaera was a mountain. On the front slope lived a lion, on the rear slope a dragon, and in between them, goatherds.[4] If you do not find that explanation to your liking you might sample another by that Heraclitus who wrote the treatise *De incredibilibus* (15): "The form of the Chimaera is described by Homer [*Iliad,* VI, vv. 179-82], as: 'lion in front, dragon behind, and goat about the middle.' The truth must be as follows. A woman who was queen of a country had two brothers named Lion and Dragon as co-regents." And if you are still not satisfied, make a try yourself! Diodorus Siculus [*Bibliotheca historica,* III, 56, 5 (Booth, Vol. I, p.

661 [2] *Op. cit.,* 20 (Leipzig, pp. 84-86): Περὶ Κόττου καὶ Βριάρεως · Φασὶν οὖν περὶ τούτων ὡς ἔσχον ἑκατὸν χεῖρας, ἄνδρες ὄντες. πῶς δὲ οὐκ εἰῆθες τὸ τοιοῦτον; τὸ δὲ ἀληθὲς οὕτως · τῇ πόλει ὄνομα Ἑκατονταχειρία, ἐν ᾗ ᾤκουν. ἦν δὲ πόλις τῆς νῦν καλουμένης Ὀρεστιάδος. ἔλεγον οὖν οἱ ἄνθρωποι: Κόττος καὶ Βριάρεως καὶ Γύγης οἱ Ἑκατοντάχειρες, *βοηθήσαντες τοῖς θεοῖς, αὐτοὶ ἐξήλασαν τοὺς τιτᾶνας ἐκ τοῦ Ὀλύμπου.*

661 [3] *Ibid.,* 18 (Leipzig, pp. 79-80): Περὶ τοῦ Αἰόλου.

661 [4] *Ibid.,* 29 (Leipzig, pp. 114-21): Περὶ Βελλεροφόντου.

197)], sees in Uranus a king of the Atlantides, who dwelt on the shores of the Ocean. He had forty-five sons by one woman or another. Eighteen were called Titans from the name of their mother, Titaia. Uranus and Titaia were worshipped as gods after their deaths, the former as Heaven, the latter as Earth. Incredible as it may seem, Palaephatus has found writers even in our day to take him seriously; and traces of his interpretations may be detected in modern theories on totemism and the origins of the family.[5]

662. B-β: *Myths and the like have a historical element combined with an unreal element.* This is one of the more important varieties. Explanations of the kind were widely current in the past and have not yet fallen into desuetude. For many people this has the advantage of reconciling love of legend with a desire for a certain amount of historical verity. It is convenient, furthermore, in that in general it admits of a lavish use of written documents, and in particular enables a writer to draw any inference he chooses from them. The norms for distinguishing what is historical from what is legendary are anything but exact. Everybody therefore twists them—very often without meaning to—in the direction that best serves the purpose in hand.

663. Nowadays ethical and aesthetic appendages are also introduced. That gives, it is claimed, a "living" history as contrasted with a "dead" history, which would be a history aiming strictly at accord with the facts.[1] This procedure, at bottom, substitutes the

661 [5] Grote, *History of Greece,* Vol. I, p. 418 (note 1): "The learned Mr. Jacob Bryant regards the explanations of Palaephatus as if they were founded upon real fact. He admits, for example, the city Nephelê alleged by that author in his exposition of the fable of the Centaurs. Moreover, he speaks with much commendation of Palaephatus generally: 'He [Palaephatus] wrote early, and seems to have been a serious and sensible person; one who saw the absurdity of the fables upon which the theology of his country was founded' (*Ancient Mythology,* Vol. I, pp. 411-35). So also Sir Thomas Browne, *Pseudoxia epidemica or Enquiry into Vulgar Errors,* Book I, Chap. VI (1835, p. 221; 1686, p. 17), alludes to Palaephatus as having incontestably pointed out the real basis of the fables."

663 [1] Renan, *Vie de Jésus,* Preface, p. lv: "In such an effort to bring lofty spirits from the past to life again a certain amount of divination and conjecture has to be allowed. A great life is an organic whole that cannot be translated through a mere agglomeration of little details. A deep feeling has to embrace that whole and create unity. The artistic sense is a trustworthy guide in such matters. The exquisite tact

writer's imagination for history. From the didactic standpoint the substitution may, conceivably, give a reader an image of the past that imprints itself on the mind more vividly than would be possible with a more accurate method. So illustrated histories may prove helpful to children and even to grown-ups by re-enforcing rational with visual memory. But such things are of no concern to science proper.[2]

664. Though Niebuhr rejected the traditional legends of Rome, he saw fit nevertheless to draw to some extent upon them, stepping, that is, from our III-B-α variety to III-B-β. But Duruy is much less scientific than Niebuhr. He simply cannot bring himself to bid farewell to tradition, and seizes every pretext to get back to III-B-α. "It was not," he suddenly bursts out,[1] "that we were intending to deny the existence of Romulus; only, the hymns that were still sung at the time of Augustus and which preserved the poetic history of the first king of Rome we now have to regard as mere legends such as all ancient peoples possessed." [2] In that we are getting pretty close

of a Goethe would there find a task worthy of it. The essential trait of creations of art is that they form living systems, each element depending on every other and determining it." That would be a definition of the historical novel. Renan, *Les Évangiles,* Preface, p. xxxiii: "In this volume, as in its predecessors, my idea has been to follow a golden mean between a criticism marshalling all its resources in defence of texts long since discredited, and an exaggerated scepticism rejecting *in toto* everything that Christianity has to say of its earliest origins." On this method of writing history see Sorel, *Le système historique de Renan,* an essay that deserves attentive reading and mastery. Reinach, *Orpheus,* Chap. VIII, § 27 (Simmonds, p. 226): "Is it even possible to extract the elements of a biography of Jesus from the Gospels? It is contrary to sound method to compose, as Renan did, a life of Jesus, eliminating the marvellous elements of the Gospel story. It is no more possible to make real history with myths than to make bread with the pollen of flowers." Golden words! But why, alas, does Reinach forget them when he sets out in his turn to make true history out of legends, and especially of legends which he imagines have something to do with totemism?

663 [2] We shall return to the matter of historical writing in §§ 1580 f.

664 [1] *Histoire des Romains,* Vol. I, p. 62 (Mahaffy, Vol. I, p. 64).

664 [2] Duruy had remarked earlier, Vol. I, p. 1 (Mahaffy, Vol. I, p. 1): "We have no intention of discussing the legends of the period of the kings. For that the reader interested in such speculations can turn to the first volumes of Niebuhr. . . . For our part such hypotheses, however ingenious and learned they may be, will always be as unreliable as the traditions they combat, and less significant than the admirable narratives of Livy, if not as truth, at least as colouring (*tableaux*)." We must first come to an understanding as to what we are doing. If the idea is

to the method of Palaephatus. How can Duruy cling to the historical existence of Romulus while regarding as legendary the only documents in which the memory of him has come down to us? Only in deference to the non-experimental principle that legend originates in history; and by following a method still less scientific whereby such origins may be recognized under a cloaking of legend.[3]

665. These *a priori* assertions experimental science cannot meet with *a priori* denials. One has to determine by experience, and experience only, whether a proposed method is or is not capable of uncovering the historical reality underlying the legend (§ 547).

666. For such a test we have, fortunately, a series of parallels with history on the one side, legend on the other: we know, that is, a historical fact and also the legend to which it has given rise. Assuming that only the legend is known, we can try to derive the historical fact from it by one method or another, and then we are in a position to determine whether the fact we get in that way is the real fact.

to get a literary effect, a writer may choose his "colouring" where he pleases; and someone else, for reasons equally good, may prefer Ariosto's *Orlando furioso* to the legends chosen by Duruy. If the idea is to write history, a writer's preferences as to colouring are of no importance whatever. The one thing that matters is to determine which account comes closest to the facts.

664 [3] Duruy notes, however, *Ibid.*, Vol. I, pp. 62-63 (Mahaffy, Vol. I, pp. 64-65), that "it would be easy to find resemblances to the Romulus legend in other national traditions. Like Romulus, Semiramis was the offspring of a goddess; like him, and like Cyrus, who was exposed in a forest and reared by a bitch, she was left to die in the desert, supplied with food by doves, and finally rescued by a shepherd of the king." In that Duruy was on the way to a natural classification of legends (§ 675), and he had one of the basic elements already—the fact that eminent personages have to have something extraordinary about their births or origins. Had he gone on, he would have found others. Very soundly he says: "Such legends, which are to be found on the far-away banks of the Ganges in the story of Chandragupta, made up, with others, the common patrimony of the peoples of Aryan extraction." But he soon gets off the track, going back to his historical interpretation, which he has himself barred in deciding that the Romulus legend formed part of a cycle of legends common to the Aryan races: "Romulus may be attached, if one will have it so, to the royal house of Alba. For us he will be just one of the military chieftains familiar in ancient and modern Italy alike, a leader who chanced to become king of a people on which fortunate circumstances and the location of Rome bestowed empire over the world." No, Romulus, Semiramis, Cyrus, and so on, are just names wherein the sentiments that gave rise to the many similar legends noted by Duruy himself attain concrete form.

If it is, the method is good; if not, it is worth little or nothing (§ 547).

667. The reconstruction of the fact must, of course, amount to something more than the mere assertion that certain persons about whom we otherwise know nothing, not even their names, once lived. That would be saying virtually nothing. If we know nothing about Romulus, where do we get by believing, with Duruy, that there was such a person? And why is the legend required, to know that much? The ancient Romans must have had military chieftains, just as all other peoples have had. That is a safe guess—it amounts almost to a certainty; but analogy is enough to tell us that, without requiring any legend of Romulus. The real problem has to be stated, therefore, as follows: Given a legend, have we any means of identifying in it a historical element, small though it be? [1]

668. Virgil is a historical character. On the other hand he is also a legendary character. Thanks to Comparetti's excellent book on Virgil in the Middle Ages, our knowledge of the legend, or, better, the legends about him, is very complete. Could we get at the Virgil of history if we had only the legends to go by?

Comparetti distinguishes two orders of legend: (1) Virgil in literary tradition; (2) Virgil in popular lore. We need concern ourselves here only with the second. The outstanding feature in the legends in mediaeval times is that Virgil is a magician. In many of them the sole points of contact with historical reality are that Virgil is a Roman citizen, and is somehow connected with an Emperor—very little indeed! Comparetti reprints among other legends a tale called "The Marvellous Feats of Virgil." The chapter headings give a fair idea of its character: "I. How Romulus slew Remus, his brother, and how the son of Remus slew Romulus, his uncle. [From the text]: It so happened that Remus, who was Emperor, died, and a son he had became Emperor after him. And that knight who had married the Senator's daughter started a great war which was a heavy burden to him and caused him much expense. That knight

667 [1] Lack of space forbids our treating the problem in the full wealth of its materials, but we must consider at least one example.

had a son by his wife, and he was born with great travail. For he refused to be born, and there was great to-do to make him issue from his mother's womb. But in the end he was born, and he required attentive watching for a long time, and that was why he was named Virgil [*vigilare,* to watch]. . . . II. Of the birth of Virgil, and how he was put to school. . . . And when Virgil was born the whole city of Rome shook from one end to the other. . . . Virgil had gone to Tollette to school, for he was a willing scholar, and he was very wise in the arts of necromancy. . . . III. How Virgil came to Rome and complained to the Emperor. . . . IV. How the Emperor of Rome assailed Virgil in his castle. . . . V. How Virgil shut up the Emperor and his army inside a wall. . . . VI. How the Emperor made peace with Virgil. . . . And it came to pass that Virgil fell enamoured of a damsel . . . and he besought her love through an old witch." The damsel gets word to Virgil *"que se vouloit coucher avec elle,* he must come very quietly (*tout quoy*) to the foot of the tower where she slept, after all the people were in their beds, and she would let down to him a basket tied to a rope, and he should get into the basket, and she would raise it up to her chamber. . . . VII. How the damsel left Virgil hanging in the basket." The damsel makes a fool of Virgil, but he gets even: "Virgil took his books and brought it to pass that all the hearth-fires in Rome went out, and there was no one who could bring fire into Rome from outside the city. . . . VIII. How Virgil extinguished the fires of Rome." The Emperor and his barons ask Virgil how they can get fire, and he replies: "You will build a scaffold in the market-place, and cause this damsel who left me hanging in the basket the other day to mount thereon naked in her shift, and you will have it cried through all Rome that whosoever would have fire shall come to the scaffold to get it lighted *à la nature dicelle damoiselle;* otherwise shall they have none. . . . IX. How the damsel was placed on the scaffold and how each person went there to light his candle or his torch as said. . . . X. How Virgil made a lamp that never went out. . . . XI. Hereinafter of the orchard that Virgil caused to grow [around the spring that fed the pond]. . . . XII. The image that

Virgil made of his wife." The image "was of such virtue that every woman who had seen it lost all desire *de faire le peché de fournication.* Whereat the women of Rome who loved for love's sake were exceeding wroth." They complain to Virgil's wife, and she upsets the image and breaks it. "XIII. How Virgil repaired the image and tripped his wife [so that she fell, like the image], and how he built a bridge over the sea." One of the Sultan's daughters falls in love with Virgil, and he brings her back to Rome (*chez lui*) on "a bridge in the air over the sea. . . . XIV. How Virgil took the damsel back to her country. . . . XV. How Virgil was arrested together with the damsel, and how he escaped, carrying the damsel off with him. . . . XVI. How Virgil escaped and carried the damsel back and founded the city of Naples. . . . XVII. How the Emperor of Rome besieged the city of Naples. . . . XVIII. How Virgil had the city peopled with scholars and traders (*marschandises*). . . . XIX. How Virgil made a serpent in Rome. . . . XX. How Virgil died." [1]

668 [1] *Virgilio nel medio evo,* Vol. II, pp. 282-300 (missing in Benecke). *Les faictz merveilleux de Virgille.* Several incidents in this legend are told of other persons in other tales. In the story of Joseph of Arimathea, the hero of the basket incident is Hippocrates, the only difference being that the vengeance ensues in a different form. Paulin Paris, *Les romans de la Table ronde,* Vol. I, pp. 246-71: "The history of the philosophers bears witness that Hippocrates was the most highly skilled of all men in the arts of physic. He lived long years in no special renown; but a thing he did in Rome spread the fame of his incomparable wizardry everywhere." He comes to Rome at the time when Gaius, nephew of the Emperor Augustus Caesar, was being mourned as dead. He perceives that the young man is not really dead, and heals him, whereat he is greatly honoured and petted by the Emperor. He falls enamoured of a lady who came to Rome from Gaul. She feigns consent and induces him to enter a basket that he may be drawn up to her chamber. "The lady and her maid were on watch at their window. They pulled the cord to the height of the room that Hippocrates thought he was to enter; but then they continued pulling, so that the basket was raised more than two lance-lengths above their window. Then they tied the cord to a hook in the wall, and cried: 'A good time to you, Hippocrates! That is the way to treat philanderers (*musards*) like you!' " The next morning Hippocrates is the laughing-stock of the city. But he takes measures to get even. He gives a certain herb to an uncouth and crippled dwarf. When the lady is touched with the herb, she falls in love with the dwarf, marries him, and is left to live with him. The writer, who seems not to have had a very fertile imagination, repeats the adventure once again to encompass the death of Hippocrates. Dardanus, nephew to Antonius, King of Persia, is given up for dead. Hippocrates heals him and in company with Antonius visits the King of Tyre, and receives his daughter in marriage. But the princess is contemptuous of such a match. After

669. Now suppose we knew nothing about Virgil except this long legend. How much historical fact could we get from it? None whatever! The story may be as interesting, amusing, or lively as one pleases, but it has no bearing on fact at all.

670. If we choose to go sailing out on the high seas of interpretation, we may get what we please from the legend by inferences that look persuasive enough, but which lead to nothing in any way according with historical realities. One might see in it a reminiscence of a great war between Rome and Naples, just as the *Iliad* is supposed to record a war between the Greeks and Asiatics. The erotic adventures of Virgil might tempt one to class him among the gods of generation, of whom he would be a Roman, or shall I say a Neapolitan, form. His difficulty in getting into the world might lead us to regard him as one of the manifestations of Hercules, or if you prefer, of Bacchus; and Naples being a Greek colony, such hypotheses would have a basis in history; and a pretty and very sizable monograph could be written to show that the legend is one of the many

many attempts on her husband's life have been checkmated by his wizardry, she finally takes advantage of his very science to poison him. King Antonius is in despair and asks whether there be no remedy. " 'There might be one,' [Hippocrates answers.] 'It would be to have a woman heat a big slab of marble burning hot by being stretched out on it entirely naked.' 'Well, let us try: and since your wife is the cause of your death, she will be the one we shall stretch out on the marble.' . . . So the lady was stretched out on the marble, and the cold of the stone gradually taking possession of her, she died in cruel pain an hour before Hippocrates." These stories simmer down to certain sentiments that are elaborated in forms more or less attractive and ingenious, the stories thus constructed being thereupon attributed to some well-known individual. The chief sentiments in this case are three: 1. The sentiment associated with the fact that the wise or the powerful can be brought to ruin by insignificant causes. It is a sentiment arising from the ups and downs commonly observable in life. 2. A misogynic sentiment, whereby a woman becomes the instrument of ruin for the wise or the powerful. 3. The sentiment of vengeance. The amount of fiction that originates in such sentiments is prodigious. Agamemnon, bravest of warriors, conqueror of the Trojans, is slain in his bath by a weak woman, but he is avenged by his son. Virgil the magician is tricked by a silly woman; but he more than evens the score. The wizard Hippocrates is able to raise the dead; but he cannot keep his wife from poisoning him. In the end he repays her. The names Agamemnon, Virgil, Hippocrates, or others equally famous are altogether incidental and may be replaced by others at will. The episodes themselves are of little importance. They vary at the fancy of the person who invents the legend or copies an old one.

associated with the invasion of Roman soil by the gods of Greece. And we could point to the *senatus consultus* against the Bacchanals (§ 1108) and connect Virgil's obscene device—he would now be a manifestation of Bacchus—for relighting the hearth-fires of Rome with the obscenities of the Bacchic mysteries. Many interpretations of legends rest on proofs much weaker than this, which we know to be entirely false.[1]

671. Some legends may have been elaborated otherwise; but it is also possible that they may have been developed like the one above; and unless we have some historical authority for deciding we can infer nothing, absolutely nothing, of a historical character from them.[1] Such legends one may find to one's heart's content in antiquity, in the Middle Ages, and even in modern times, and all along romance may be seen combining with history in an unmistakable manner. So when only the mixture is known, we have no way of telling how it was compounded.[2]

670 [1] Other methods of interpretation would yield other results; but they would all be foreign to reality (§ 789).

671 [1] Sorel, *Le système historique de Renan,* Vol. I, p. 41: "The interpretation of apocalypses was to play a great rôle in the labours that Renan was intending to undertake in 1848. We have seen that such a method could only eventuate in a discovery of history as underlying legend. I do not believe there is any fallacy more dangerous than the one involved in such an enterprise. Legend may throw invaluable light on the manners of thinking of a people. But it cannot give historical facts; and it was facts that Renan was intending to ask of his apocalypses."

671 [2] Chassang, *Histoire du roman . . . dans l'antiquité grecque et latine,* pp. 432-33: "One need merely glance at the Byzantine chroniclers to discover reminiscences of the old romances everywhere. . . . Zonaras, for instance, knows the stories of Cyrus according to Herodotus (*Historiae,* I) and according to Xenophon, and he prefers the latter, because, he says [*Epitome historiarum,* III, 26; Migne, Vol. 134, p. 311], 'he is writing a compendium and need only give the most plausible accounts.' For Cicero the *Cyropaedia* was just a story [*Epistulae, Ad Quintum fratrem,* I, 1, 8, 23]. Thanks to Zonaras it makes its bow as history. Cedrenus [*Historiarum compendium,* I, 136-37; Bekker, Vol. I, pp. 239-41], on a happier impulse, follows Herodotus, but stirs into the narrative of the historian of Halicarnassus a number of Jewish or Christian legends [notably that of the relations of Cyrus to one Daniel, who converted him to belief in the Jehovah of the pre-Christians]. Those stories appear in still ampler elaboration in Malalas [*Chronographia,* VI, 201 (158); Migne, p. 259]. Malalas, to be sure, has his authority, and a very imposing one: Julius the African, no less, who notes among the sources he used a *History of the War between Cyrus and the Samians,* written by the sage Pythagoras of Samos!"

672. A common method of interpretation lies in eliminating apparently fictional elements from a narrative and keeping the rest as history (§ 258). Used not as interpretation but as a mere device for eliminating incidental elements from texts that on the whole have their status as history, this method is not only helpful but in many cases indispensable. Few the texts of antiquity in which history is not interspersed with marvels; and if we were to reject them as history because of the miracles, we would know nothing whatever of antiquity—or even of times more recent.

673. But let us not overlook the two essential conditions (§ 258): The fiction has to be incidental, and the part held to be historical must have additional traits, and sufficient corroboration, to make it evidently historical. If the legendary element predominates, if the historical element is without corroborating testimony, or at least a fair amount of probability, the method becomes mere interpretation and is entirely misleading. In short, the reasons for accepting the testimony of a writer must be intrinsic to his person and his work, and not lie in any extrinsic principle that what is plausible has to be distinguished from what is not. The fact that a thing is plausible is not enough to make it true.

674. That is not all. There are cases where, if we eliminate elements suspected of being fictional and keep such as are apparently historical, we eliminate the very element that, if not true, has a chance of being true, and keep what is certainly false. A mediaeval story-book of Roman history [1] says: "We read in the chronicles that in the twenty-second year after the foundation of Rome, the Romans erected a marble column in the Capitol of the city, and on the column they placed the statue of Julius Caesar, and on the statue his name was inscribed. But this Caesar had three marvellous signs before dying. The hundredth day before his death the lightning struck in front of his statue, obliterating the first letter of his name. The night before his death the windows of his bedchamber flew open so violently that he thought the house was falling. On the very day

674 [1] *Le violier des histoires romaines,* pp. 229-30 [*Gesta Romanorum,* Dick ed., no. 80, p. 50].

he was killed, as he was entering the Capitol, some letters of warning were handed to him. They foretold his death, and had he read them, he would have escaped his murder and death." If we were to keep such parts of this story as seem to be historical and eliminate the apparently fanciful, we should have to keep the statement that Caesar was living in the year 22 A.U.C. and that in that year a column bearing his name and topped by his statue was erected in his honour in the Capitol. All of which would be entirely false. Meantime we would have to eliminate the three portents that preceded Caesar's death, and which, by the writer's own admission, are in the nature of miracles. But the portents are the things best corroborated in the histories most nearly contemporary with Caesar. They may be false: but they also may be true, at least in part.[2]

675. In the Virgilian legend mentioned we get an illustration of the way in which myths in general develop. It is something like the formation of crystals. Drop a grain of sand into a saturated solution of alum, and a number of large crystals will be seen to form about it. So around a story that has no basis in fact, but is a mere objectification of a sentiment, other stories of the same kind with various ornaments cluster, and form an agglomerate with it. Sometimes the characters are left imaginary; then again they are chosen from among historical characters whom the adventure seems best to fit. Once the character, historical or otherwise, is so chosen, he oftentimes becomes a type and is given a part in other imaginary adventures. Such characters, and even the adventures, are obviously incidental elements in the story, the chief element being the sentiments that it expresses. Ordinarily literary historians invert those relations: they stress the characters and the adventures, and disregard the sentiments to express which the stories were invented.[1] So

674 [2] Suetonius, *Divus Julius,* 81, 3-4: "And suddenly the doors of his bedroom opened of their own accord. . . . About eleven o'clock (*fere quinta hora*) he set forth, and a letter warning of the plot against him was handed to him by a chance passer-by. He mixed it in with other letters he was carrying in his left hand, as though intending to read it later." And *cf.* Dio Cassius, *Historia Romana,* XLIV, 18; Plutarch, *Caesar,* 65 (Perrin, Vol. VII, p. 595).

675 [1] The theories and manners of thinking current in society are generally treated in the same way. First prominence is given to the accessory elements—logi-

artificial classifications are obtained, all stories dealing with a given character, and resembling each other only in that subordinate respect, being grouped together. Whereas a "natural" classification would put into one class all stories expressing the same sentiments and therefore resembling one another in a major respect, the names that are used to give concrete point to the expression being disregarded, or virtually so (§ 684[2]). So, again, around a historical fact so insignificant as oftentimes to amount to no more than a mere name (Virgil), a rank tanglewood of fiction flourishes, that has nothing absolutely to do with history. When, then, we examine such legends with a view to their origins, we cannot expect to find them in the pseudo-historical element, but only in the principal element—in the sentiments that are expressed.

676. So it is that around a single name a motley agglomerate of adventure gathers. That was the case with the gods of paganism. When later on, in the early days of criticism, it was seen that all those adventures could not possibly be assigned to a single person, a way was sought to account for the legend. The manner of development just described not being known, scholars preferred to see two, three, or even more persons in the god or hero to whom the many adventures had been attributed. So, as in the interpretations of Palaephatus, the letter of the legend was respected while its meaning was changed. Cicero enumerates three Jupiters, five Vulcans, three Aesculapiuses, and so on.[1]

677. There is no denying that in some cases divinities of different peoples were fused into one and given one same name. Of that the assimilation of Greek to Roman divinities would be sufficient proof.

cal expositions and pseudo-experience, non-logical conduct, which is the principal element, being relegated to the background or entirely ignored. These present volumes on sociology aim at restoring those elements to their natural relative position. That is why we began with a study of non-logical conduct. That is why we have given, are here giving, and will continue to give examples of inversions in the order of those elements. Later on, after we have distinguished them, and evaluated them according to their importance, we shall study them each in particular (Chapters VI to X). Until we have finished that task, we shall not have the real elements in the social equilibrium.

676 [1] *De natura deorum*, III, 22, 55-60.

The error lies in the assumption that all legends must have originated in that way.

678. As usual, let us revert to experience to determine how such legends are formed (§ 547). In plenty of cases it is apparent that the name of a person to whom a variety of adventures have been ascribed is not a name for two or three persons who have been blended into one. An amusing story, for instance, is told of Mme. de Talleyrand. But if we look into the facts it develops that the story was current long before Mme. de Talleyrand was born or thought of. She had the reputation of being a stupid woman, and she was therefore credited with incidents befitting the woman she was supposed to be.[1]

Her husband, on the other hand, was famous as a witty, shrewd, intelligent man; and in the same way he was credited with all the witty stories that came along. Fournier alleges that Talleyrand often appropriated the jests he read in the *Improvisateur français* and adds:[2] "But oftentimes he was provisioned with wit with even less effort on his part. He gathered them in from all hands without meaning to, even without knowing. Every jest to the point took his name for its flag, and so recommended enjoyed only the greater vogue in virtue of the careless habit talkers have, as Nodier says, of

678 [1] Lacombe, *La vie privée de Talleyrand,* p. 197: ". . . as witness this other story which made Napoleon burst into a laugh every time he thought of it at St. Helena (O'Meara, *Napoleon in Exile,* Vol. I, p. 435): Talleyrand had invited Denon, the Egyptologist, to dinner. With the idea that his wife should have a subject of conversation handy, he suggested that she read one of Denon's books. Going to the library, she picked up, by mistake, a copy of *Robinson Crusoe,* which she devoured at one sitting. At table that evening, still thrilling with the tale, she could hardly wait to take up Denon's marvellous adventures with him. 'Oh, Monsieur Denon, what a strain it must have been! Your ship wrecked! That desert island! But I'll guess you looked funny in that pointed hat!' The scholar gazed at her in amazement; nor did the mystery clear till Mme. de Talleyrand began on the subject of his man Friday. . . . The trouble with the story is that it is told now with Denon, now with Humboldt, now with a certain Sir George Robinson as hero; and worse yet, it was not invented for Mme. de Talleyrand. Years before her day, it seems, society wags were peddling it about, with just one variant: the mistake was ascribed to a priest. It would take a volume to accommodate all the anecdotes current on the Princesse de Bénévent [Mme. de Talleyrand]."

678 [2] *L'esprit dans l'histoire,* p. 267.

attaching all they know to well-known names.[3] A jest of his sometimes did not get to his ears until after it was worn out and become altogether stale. Hearing it then when it was an old story with everyone else, he would still be ingenuously laughing at it as the latest hit, though everybody had long since tired of it."

679. Another historical character, but one of ancient times, is credited with many implausible adventures: Laïs the courtesan. As usual, to remove incongruities in the story two Laïses were called in. "The conjecture," says Bayle,[1] "that there were two courtesans by the name of Laïs is based on the fact that it is chronologically impossible to attribute all that is reported of Laïs to one woman." But that is not the end of it; Bayle shows that to reconcile all details in the narrative, three different Laïses have to be assumed. It is preferable, he rightly adds, to imagine that Laïs has been credited with adventures of other courtesans.[2]

678 [3] Fournier notes, *Questions de littérature légale,* p. 68: "According to the *British Review,* October, 1840, p. 316, the person thus chosen as responsible for the jest of the day is to the dandies of the Parisian Mayfair what the statue of Pasquino is to the idlers of Rome: a sort of common bill-board on which anybody feels free to paste up his jests good or bad."

679 [1] *Dictionnaire historique, s.v.* Laïs.

679 [2] Bayle says in full: "There is a conjecture that there were two courtesans named Laïs. The lady here in question was carried to Corinth at the time when Nicias was in command of the Athenian army in Sicily, in other words, in the year 2 of the 91st Olympiad. She was then seven years old, if we are to believe the scholiast of Aristophanes [*Plutus,* v. 179; Dübner, pp. 334, 550, 662]. Now since Demosthenes did not dare to go to Corinth to visit Laïs except by stealth, he could not have been a stripling schoolboy, but a man already of some reputation. Let us make him at least thirty. That would make Laïs sixty-seven. There is no probability therefore either that Demosthenes cared much about seeing her, or that she would have held out for an exorbitant price. So then, it must have been another Laïs who had her eye on the wallet of Demosthenes. If we say that Demosthenes made the trip to Corinth at about twenty, Laïs would still be well on toward sixty. Speaking of Laïs, Plutarch expressly states that she was a girl from Hyccara in Sicily and that she had been carried away from there as a slave. So, according to Plutarch [*Alcibiades,* 37], the Laïs the Younger mentioned by Athenaeus was the Laïs born in Sicily before the 91st Olympiad; so that if the Laïs who asked the money of Demosthenes is a different Laïs, there have to be three courtesans by that name. . . . For my part, instead of assuming two Laïses, I should be inclined to imagine that the Greek writers, who were not strong on chronology, attributed to the famous Laïs an adventure of Demosthenes which concerned another woman." [The confusions about Laïs do not stop there. Villon, in his "Ballade of the Fair Dames

680. Some legends have a historical origin. The *Chanson de Roland* studied by Gaston Paris is one such.[1] One historical detail seems authentic: "On the fifteenth of August, 778, the rear-guard of the army that Charles, King of the Franks, was leading back from Spain after a half-successful expedition, was ambushed and destroyed in the Pyrenees by Basques of Navarre with whom the Franks were not openly at war." The King turned back, but was unable to avenge the massacre of his soldiers and had to proceed on his way. "Such the version given in the royal *Annales* and in Eginhard's *Life of Charlemagne*. It is the version adopted by all our historians. The Arab version is quite different. According to Ibn-al-Athir, 'it was the Mussulmans of Saragossa, the very people who had called Charlemagne to Spain, who inflicted that serious defeat on the Franks at a time when they were off Arab territory and were thinking themselves altogether safe.' "

On that scanty historical foundation a spacious edifice of legend was built up without any extrinsic trait to justify one in going back from the legend to history. After attempting a reconstruction of the true story of the battle, Gaston Paris observes: "Of the fight as we are able to picture it to ourselves very little is left in our poem." And he concludes: "We may infer from all that . . . that the *Chanson de Roland* certainly rests, in the beginning, on direct knowledge of events, people, and places, and that in certain respects it even shows very remarkable accord with the information supplied by history. But the form in which it has come down to us, a form three centuries posterior to the primitive form, is widely at variance with the latter, and that is due very largely to successive inventions by amplifiers and rewriters who were thinking only of literary effects and who, moreover, had no other source of information on the events celebrated in the *Chanson* than the poem itself." But what is the good of knowing that the legend has a historical background

of Long Ago," makes Alcibiades a female prostitute, first cousin to Thaïs: *"Achipiada ne Thaïs—Qui fut sa cousine germaine."* That is a confused reminiscence of Plutarch's description of Laïs as daughter to a concubine of the famous Athenian statesman.—A. L.]

680 [1] *Légendes du moyen âge,* pp. 3-4, 53-54, 61-62.

if we have no means of identifying the latter under the legendary trappings? The *Chanson de Roland* had a basis in historical fact. By a false analogy, are we to extend that conclusion to all the legends of the Carlovingian cycle? That would be a grave mistake, because for many of them no such historical background exists.[2] The principle of considering anything smacking of the supernatural as fictional may therefore, as proofs in abundance show, work more or less well with documents that are mainly historical; but it nearly always leads amiss when applied to legends. From legends lacking in extrinsic historical adjuncts we can therefore infer little or nothing that is historically real—nothing rather than little.

681. B-β1: *Myths and the like have historical origins, and the stories have undergone alterations in course of time.* The remarks just made for our variety B-β apply also to the subvariety B-β1. A type of this species is a euhemerism that we will call old-fashioned to distinguish it from the neo-euhemerism of Spencer.

682. Little is known about the *Sacred Anagraphs* of Euhemerus. From accounts of the work given by other writers we may distinguish two elements in it: first an interpretation, and then the proofs that are given of it. The interpretation, which views the gods as nothing but deified human beings, is partly sound, if not in the cases

680 [2] Many legends of the Carlovingian cycle have nothing to do with reality. We read, for instance, in Ménage, *Menagiana,* Vol. I, p. 110: "One of the greatest ingenuities ever written is the story in the 'Tale of Galien Restored' of the reception given by King Hugon, Emperor of Constantinople, to Charlemagne and his peers, and what followed from it. Charlemagne and his Twelve Peers stopped at Constantinople on their way back from the Holy Sepulchre, and were entertained in the palace of King Hugon. After a magnificent banquet, attended by his wife the Queen, his two sons, the princes Henry and Tiberius, and his daughter, the fair Jacqueline, he led them into a magnificent hall where they were to pass the night." Before falling asleep Charlemagne and his peers amuse themselves by boasting of imposible feats at arms. Such swaggering coming to the ears of King Hugon, he compels Charlemagne and his peers to make good their boasts. Heaven helping, Charlemagne cuts a fully armoured man in two at one stroke—and the story runs on. Suppose a story of that kind were found in Suidas, instead of in the *Menagiana,* and suppose the characters were Greek heroes. We may be certain that there would be no end of commentary to a thousand different purports in an effort to discover underneath it some historical basis, which it surely does not have. Strip the legend of everything marvellous, reduce it to the bare fact of Charlemagne's visit to Constantinople—and we get a fact that is altogether false!

mentioned by Euhemerus, at least in other similar cases. The proofs are worth nothing. Euhemerus asserts that he arrived, in the course of his travels, at an island called Panchaea, which was wholly consecrated to the gods, and that he saw there a temple to Zeus Triphylius, which had been built by that god in person while he was still living on earth. In the temple stood a golden column commemorating achievements ascribed to Uranus, Cronus, and Zeus, all three of whom had lived on earth and sat on thrones. Euhemerus filled a whole book with the deeds of men who had become gods.

After all, we do not know whether the travels in question were offered as proofs or whether they were a mere literary device for developing a theory which had, for that matter, different and better proofs. Several ancient writers considered the stories of Euhemerus downright lies. Strabo was of that opinion. After mentioning certain stories that he considers inventions, he adds:[1] "All that is not so very different from the hoaxes of Pitteas, Euhemerus, and Antiphanes. But those writers may be forgiven them. These charlatans are merely feathering their nests." Polybius too seems to have considered Euhemerus a deliberate liar. But it was only the testimony of Euhemerus that he rejected. As regards the interpretation, he too held that the gods were once men. He says, for a sample:[2] "Aeolus taught navigators how to manoeuvre in the Straits [of Messina], which are winding and difficult of egress because of the ebb and flow; and that was why he was called a dispenser of winds and held to be king thereof." He mentions other similar cases, and concludes, *loc. cit.*, 8-9: "So in each of the gods we see homage rendered to the inventor of some useful thing."

683. Polybius was familiar with real facts that showed how human beings had been deified. He notes, X, 10, 11 (Paton, Vol. IV, p. 125), that there were three low hills near New Carthage: "The one to the east is called the hill of Hephaestus. The one next to it bears the name of Alestus, who, it is said, came to be honoured as a god for

682 [1] *Geographica,* II, 3, 5.

682 [2] *Historiae,* XXXIV, 2, 5 (Paton, Vol. VI, p. 299). Polybius is criticized by Strabo, *Geographica,* I, 2, 15 (Jones, Vol. I, pp. 85-87).

having discovered the silver mines. The third is known as the hill of Cronus."

684. The Fathers of the Church, who in general did not make any great use of historical criticism, could be expected to offer favourable welcome to the theories and proofs of Euhemerus, which fitted their bill to perfection. St. Augustine holds it the most credible opinion that the gods were men, each of them succeeding, according to his abilities, manners of living, conduct, and various fortuities, in being deemed a god by his flatterers and in winning worship and rites.[1] Just previously, VII, 7, he had said: "What did they think of Jupiter, no less—they who placed his nurse in the Capitol? Do they not bear witness for Euhemerus, who, not as a teller of tales, but as a diligent historian, wrote that all those gods had been men and mortal?" Lactantius takes seriously what Ennius, following Euhemerus, says about the reigns on earth of Uranus and Saturn.[2] Says Minucius

684 [1] *De civitate Dei,* VII, 18.

684 [2] Lactantius Firmianus, *Divinae institutiones,* I, *De falsa religione,* XI, 33, and 45-47 (*Opera,* Vol. I, pp. 42, 44-45; Fletcher, Vol. I, pp. 30-32): "Euhemerus, a writer of the old days, who came from Messene, collected the biographies of Jupiter and other men who are considered gods, and compiled a history from the titles and inscriptions that were preserved in sacred temples of most ancient date, and especially in the shrine of Jupiter Triphylius, where a title on a certain column of gold indicated that it had been erected by Jupiter himself, and in it he had recounted his deeds, that it should be a reminder of his life to posterity. . . . Having described in his [Latin version of the] *Sacred History* [of Euhemerus] everything Jupiter had done in his lifetime, Ennius concludes [Fragment 725, Giles, p. 68]: 'Having five times gone about the whole earth, Jupiter divided his realms among relatives and friends, left laws and customs for men, taught them agriculture, and did many other good things. Eager not to be forgotten, yearning for undying glory, he left abiding memorials to his people. In the utter fullness of age he died (*vitam commutavit*) in Crete and went away to the gods; and the Curetes, his sons, cared for his body (*eum*) and clothed it with royal raiment (*decoraverunt eum*) [This may also mean: "paid worship to him, and decked his shrine with garlands." —A. L.]; and his tomb is in Crete in the town of Cnossus; and it is said that Vesta was the founder of that city; and on his tomb is written in ancient Greek characters: ZAN KRONOU, which is to say in Latin: "Jupiter [son] of Saturn." And these things are handed down to us not by fanciful poets, but by scholars (*antiquarum rerum scriptores*).'" Lycophron, *Cassandra,* v. 1194 (Mair, pp. 591-93), mentions the region where Zeus was born. In comment on the verse Tzetzes (Potter, p. 123) says that scholars know that kings bore the name of Zeus and were called gods and that Zeuses were born in Crete, Arcady, Thebes, and a thousand

Felix, *Octavius,* 21, 1-2 (Randall, p. 373; Freese, pp. 62-63): "Read the writings of historians or philosophers, and you will agree with me that men have been made gods because of their merits or their philanthropies, as Euhemerus relates; for he tells the manner of their birth, their native towns, and the location of their tombs, designating the places [to which they belong], such as the Dictaean Jupiter, the Delphic Apollo, the Pharian Isis, the Eleusinian Ceres. Prodicus says that those men were made gods who, travelling about the world and finding new things of use, brought them home to their peoples. Of that opinion is Persaeus, and he adds that their names were given to the things they found, whence the savoury proverb: 'Apart from Liber and Ceres Venus droops.'" [3]

685. Very numerous in times present and past are interpretations of this variety that are used to strip a story of its less credible elements in order to save the rest. So, for example, miraculous births are transfigured into natural births, and, as Dante says:

. . . e vien Quirino
Da sì vil padre che si rende a Marte.[1]

other places—καὶ ἐν ἑτέροις μυρίοις τόποις—where they had inscriptions. The usual case of similar sentiments finding expression in various ways (§ 675). *Cf.* Arnobius, *Disputationes adversus gentes,* IV, 14 (Bryce-Campbell, pp. 195-97). St. Cyprian, *De idolorum vanitate,* II, says (*Opera,* p. 567; Wallis, Vol. I. p. 444): "A cave of Jove may be visited in Crete, and his tomb is pointed out to one." St. Epiphanius, *Ancoratus,* 106 (*Opera,* Vol. III, p. 210), says of Zeus that "his grave is known to not a few, since even in our day it is shown on Mount Lasius in Crete." *Cf.* Clement of Alexandria, *Protrepticus* (*Exhortation to the Greeks*), II, 32 (Butterworth, p. 79). Non-Christian writers also mention the tomb of Zeus: Cicero, *De natura deorum,* III, 21, 53; Lucian, *De sacrificiis,* 10 (Harmon, Vol. III, p. 165); Statius, *Thebaid,* I, vv. 278-79; Lucan, *Pharsalia,* VIII, v. 872. In his *Hymnus in Jovem,* vv. 6-9, Callimachus brands stories of the kind as lies: "Zeus, some say that thou wert born on Mount Ida in Crete, others in Arcady. Which, O Father, are the liars? The Cretans are perpetual liars, for they have built a tomb they say is thine, O King. But thou art not dead: thou art eternal."

684 [3] [Randall drops his knitting to render the proverb daintily: "Venus without Liber and Ceres is a-cold." It goes better, however, in American: "Venus without Liber and Ceres is a-frost."—A. L.]

685 [1] "From such base lineage doth Quirinus come, who is hailed the son of Mars." *Paradiso,* VIII, vv. 130-31. [Romulus was son of Rhea by father unknown. Legend made Mars the parent.—A. L.]

686. To the present variety belong theories that derive the nature and properties of a thing from the etymology of its name.[1] The premise of such theories is, implicitly at least, that each thing was originally given a name corresponding exactly to its nature. That premise metaphysicists, still implicitly, may supplement with others; things being as the human mind imagines them, to reason from the name of a thing is tantamount to reasoning from the thing. This, in a word, is one of the many cases in which subjective sentiments are endowed with objective reality. The theory attains its maximum absurdity in Plato's *Cratylus.*

687. However, ignoring such *a priori* considerations, let us, as usual, appeal to experience. It may well be that in our day scientists try to name new things in such a way as to indicate some of their properties. In such a case etymology might be of use in discovering, if not the actual properties of a thing, at least the notion its discoverer had of it. So the name "oxygen" indicates not that that body is the sole generator of oxides, but that those who gave it the name (Scheele, Priestley, Lavoisier) thought that it was. The names given by people at large, and therefore most of the terms of ordinary language, do not have even that modified significance. They depend upon accidental circumstances which have often little or nothing to do with the nature of the thing.[1]

688. Among rigorously etymological interpretations one has remained famous. It was long believed that *servus,* "slave," came from *servare,* "to save," *i.e.,* to keep safe or sound; and a very pretty

686 [1] See Chapter X.

687 [1] Darmesteter, *La vie des mots,* pp. 41-42. Speaking of the quality of an object that serves to give it a name, Darmesteter says: "It is interesting that the quality need not at all be essential and really denominative. The French word *cahier* is, etymologically, a group of four things (O.F. *caier, caern, cadern,* Lat. *quaternum,* 'group of four' ['sheets,' understood]). . . . *Confection* is just a 'preparation' (Lat. *confectio*). *Chapelet* is just a 'little crown' (*chapel,* 'garland')." Töpffer, *Nouveaux voyages en zig-zag,* p. 6 (trip to the Grande Chartreuse): "Let a group of people live together, travel together, just for a few days, and you will inevitably see words and acceptations of words growing up that are strictly peculiar to that group, and that so certainly and so naturally that, just the reverse of what the scholars say, it seems much harder to explain how a language could fail to develop wherever human beings are consorting together than to imagine how it actually arises."

theory of slavery was derived from the etymology. The *Institutes* of Justinian say, I, 3, 3: "Slaves were called *servi* because the generals ordered that prisoners of war be sold, and therefore were wont to 'save' and not to slay them." [1] But that etymology is no longer accepted. *Servus,* it now seems, means "guardian of a house," and our pretty theory of slavery goes by the board.[2] A pity indeed! But if anyone is anxious to deliver himself of a theory of slavery based on the new etymology, he ought to attend to it at once, before the etymology is changed on us again.

689. In Italy and countries where there are any great numbers of Italian labourers, the name *crumiro* is used to designate a man who works while his comrades are on strike—a "scab." If this word were Latin or Greek, we might derive many pretty etymological theories from it: *crumiro,* or *krumiro* (as many write it) from κρούω, "to knock" or "beat," whence κροῦμα, "blow," "stroke," the etymology so indicating that the *crumiri,* or *krumiri,* were "beaten" by their fellow-workers. Many etymologies that have been and still are current are more far-fetched than that. As a matter of fact we know where the word comes from. The Krumiri were a tribe in Tunis, and the French took imaginary depredations by that tribe as a pretext for invading Tunis. The displeasure occasioned in Italy by the episode led to an association of the name Krumiri with unpleasant sentiments. When Italian working-men came to feel other unpleasant sentiments for men who they thought were betraying them in times of strike, they forthwith labelled them *crumiri* (§ 547).

690. This case is typical of a very wide-spread class. Every day we see new words and phrases originating in associations of ideas that

688 [1] *Corpus iuris civilis,* Vol. I, p. 4; Scott, Vol. II, p. 8: *"Servi autem ex eo appellati sunt quod imperatores captivos vendere jubent, ac per hoc servare nec occidere solent."*

688 [2] Bréal-Bailly, *Op. cit., s.v. Servus: "Servus* literally means 'guardian' . . . the slave being considered as the guardian of the house." James Darmesteter, *Notes sur quelques expressions zendes,* p. 309: "That origin of the word being gradually forgotten, *servus* came to mean simply 'slave,' and that sense is the only one that figures in derivatives such as *servio* and *servitus.* The etymology of *servus* understood as a prisoner of war whose life has been 'saved' is therefore to be rejected."

are frequently quite fortuitous.[1] If, in some period in the distant future, someone tries to discover what they mean by going directly from word to thing, he will certainly miss the mark. It is evident therefore that if we, in our time, use that method to get at things of the remote past, we may sometimes hit the truth, but may just as easily go astray.

691. The direct etymological procedure derives the name from the properties of the thing; the inverse procedure ascribes certain properties to the thing simply because of its name. This latter seems to have played a considerable rôle in mythology, and it is probable that many mythological episodes were invented because of names.[1] In many cases, however, it is a question of mere probabilities, and conclusive proofs are lacking.[2]

692. B-β2: *Myths and the like are made up of experiences wrongly*

690 [1] *Liberté,* Dec. 10, 1910 (from the *Cri de Paris*): *"Elle sait où est le compteur* —'She knows where the gas-meter is'—is the latest fad in the way of slang. It is going the rounds of the cabarets and vaudeville houses. You do not say of a woman: 'She is being seen about town with Monsieur X.' You say: 'She knows where his gas-meter is!'; and everybody understands. All the same, very few know how the expression started. . . . It seems that one of our playwrights, a young man and rich, invited a number of very pretty actresses and a few gentlemen to attend a reading of a new play of his in a studio which he prefers on certain occasions to his official residence. The company made their way in a body into a room shrouded in blackest darkness. The dramatist struck a match, turned on a gas-jet, and cried: 'Dear me—my franc has run out!' Without a moment's hesitation, though the room was dark, one of the young ladies opened a panel and pointed to the gas-meter. Light dawned in the room and in the wits of the company. The elect of the moment had betrayed herself. 'Oh, so she knows where the gas-meter is!' And the phrase took Paris by storm."

691 [1] Dugas-Montbel, *Observations sur l'Iliade,* Vol. II, p. 145 (*Iliad,* XVIII, v. 486): "As for Orion, he became, eventually, the hero of a very unpleasant adventure that Voltaire relates in the crudest terms in the article on allegory in the *Philosophical Dictionary* (*Œuvres,* Vol. VII, pp. 54-55), believing it to be an allegory. But the offensive tale did not originate in any desire to find an allegory. It was due to a mere association of the name Ὠρίων with οὖρον, 'urine.' Nor was Orion's name, either, derived from the adventure, as the little scholia say. The adventure was invented to account for the name. The proof is that all those vulgarities did not come on the scene till after Homer's time, for Homer knew the name." The proof is not very strong, but the conjecture has probabilities in its favour (§ 660).

691 [2] Etymology also plays a part in another variety of interpretations—B-γ. See §§ 780 f.

interpreted and fallacious inferences from real facts. This variety differs from the preceding, B-β1, in that, apparently if not actually, it assigns a more important rôle to experience, and its pseudo-experimental inferences are longer drawn-out and more ingenious and fine-spun.

693. The theory of "animism" belongs to this variety. It appears under several forms. In the more definite, it asserts that primitive peoples are convinced that human beings, animals, plants, and even non-living things have souls; and religious phenomena accordingly owe their origin and development to logical inferences from that conviction. In a less definite form it runs: "We can be sure that children and savages are animists, that, in other words, they project the volition acting within themselves upon things without and so people the world, and especially the creatures and objects immediately about them, with life and sentiments similar to their own." [1]

Inferences are evidently drawn out longer in the first form of animism than in the second, but there is no lack of them in the second. To reduce the second to sentiments corresponding to non-logical conduct, we have to change our language and say that the child and the savage in many cases, and even civilized man in some cases, act in the same ways towards the human beings, living creatures, and even objects with which they stand in contact.

694. When there is an effort to give a logical colouring to the non-logical conduct, inferences are appended. A person may say: "I do as I do *because* I believe that the animals, plants, and objects connected with me have a will such as I and other human beings have." Or the inference may be lengthened by giving the will in question a cause, attributing it to an entity called "soul," and asserting that other beings have souls just as human beings have.

693 [1] Neither here, nor anywhere else, do we intend to solve the problem of "origins" from the chronological standpoint (§§ 885 f.). Documents for any such research are wanting, and so it becomes a mere exercise of the imagination. We are going to try simply to reduce complex phenomena to simpler ones, and examine the relationships between them. It may be that the simple phenomena have preceded the composite in time, or the reverse may be the case. For the present we are not interested in the question.

Tylor goes even farther. Says he:[1] "The sense of Spiritualism in its wider acceptation, the general belief in spiritual beings, is here given to Animism." And he adds: "Animism characterizes tribes very low in the scale of humanity, and thence ascends, deeply modified in its transmission, but from first to last preserving an unbroken continuity, into the midst of high modern culture." Tylor must therefore be describing an evolution of those non-logical sentiments, or of their expressions. To tell the truth, it is surprising to hear that "tribes very low in the scale of humanity" should already have developed so subtle a theory as belief in the existence of spiritual beings. Their language has to be highly enough perfected to express abstractions such as "being" and "spiritual." It also has to be very well known to travellers, if they are to translate such terms accurately into ours.

695. Meantime there are plenty of doubts even with languages that are very well known.[1] One writer says of Chinese morals:[2] "Noth-

694 [1] *Primitive Culture,* 1871, Vol. I, p. 385; 1873, Vol. I, p. 486.

695 [1] We cannot give a definite translation even of the term *ψυχή* in the Homeric poems. In Greek writings of a later date it may be translated as "soul"; but in Homer it has a number of meanings that are not sharply defined. Theil, *Dictionnaire complet d'Homère, s.v.* *Ψυχή*: "*Ψυχή*, properly, 'breath,' and since breath is the sign of life, 'spirit,' 'life,' 'vital force,' 'soul': *Iliad,* V, v. 696: *τὸν ἔλιπε ψυχή*, 'the spirit left him': that is to say, 'he fainted'; but it may also mean 'he died,' as in *Odyssey,* XIV, v. 426, where it is a question of animals. It is, further, more often phrased with such words as *μένος* [soul and strength]: *Iliad,* V, v. 396; *αἰών* [life and soul]: *Iliad,* XVI, v. 453; and *θυμός* [soul and spirit]: *Iliad,* XI, v. 334. In *Iliad,* I, v. 3, it appears in the plural; and in *Odyssey,* III, v. 74, one notes: *ψυχὰς παρθέμενοι*, 'exposing their lives.' This vital principle was conceived as an actual substance. When a man dies it goes out through his mouth: *Iliad,* IX, vv. 408-09; or through a wound: *Iliad,* XIV, vv. 518-19. Whence, the 'souls of the dead' in the other world, 'soul,' 'spirit,' 'shade': *ψυχὴ Ἀγαμέμνονος, Αἴαντος*, 'the soul of Agamemnon,' 'of Ajax.' Such a soul was, actually, without body, but it kept the shape of the body: *Odyssey,* XI, vv. 204-09; it had no *φρένες* [mind, or perhaps vitals]: *Iliad,* XXIII, v. 103; therefore it was only a 'ghost,' *εἴδωλον*: *Odyssey,* XI, v. 601. The two words are often conjoined (*ψυχὴ καὶ εἴδωλον*): *Iliad,* XXIII, v. 103, *Odyssey,* XXIV, v. 14; and in that sense *ψυχή* is contrasted with the 'body,' which the ancient Greek thought of as his 'ego,' his personality (*αὐτός*): *Iliad,* I, v. 3; *Odyssey,* XIV, v. 32 [Wrong reference—perhaps XIV, v. 134, or XXIV, v. 35]. *Ψυχή* is never used in Homer to designate states of mind." When we have explanations equally detailed of the terms that are used by savages, we may have some conception of the words that travellers and missionaries arbitrarily translate by our word "soul."

695 [2] Farjenel, *La morale chinoise,* p. 20.

ing is easier for the translator than to yield to the temptation of making a text say what he wishes it to say, and that temptation is of course very great in dealing with works on philosophy or morals." It is therefore legitimate to wonder whether the missionaries and travellers through whom we get our knowledge of savage or merely backward peoples have not altered meanings of terms thus rendered.[3] But, after all, any mere presumption, however reasonable and probable, has to bow to the facts. To them, therefore, let us look for our solution.

696. In the first place the things we observe in our children cannot be grouped with the phenomena of animism. Children talk to their dolls and the house-dog as though dog and dolls were able to understand them long before they have any such notions as are expressed by the terms "beings" and "spiritual." We can go farther still. Even among adults, a hunter talking to his dog would be astounded were he asked whether he thought he was conversing with a "spiritual" being. In reality, in all such cases we are dealing with non-logical actions, with expressions of certain inclinations, and not with results of logical processes.[1]

695 [3] Even scholars who have perfect mastery of their subjects may in moments of inattention use terms not corresponding to the texts before them. Maury, *Histoire des religions de la Grèce antique,* Vol. I, p. 336: "The Elysium, or better the Elysian Fields (Ἠλύσιον πεδίον) is described in the *Odyssey* as 'a land where the just man leads a happy life in peace under a sky that is ever cloudless.' " Maury is referring to *Odyssey,* IV, vv. 561-69. Now for that passage the term "just" does not serve. There is no reference whatever to "just" men. It is a question of Menelaus, who is to go to the Elysian Fields not because he has been "just," but "because (v. 569) he has Helen to wife and is in the eyes of the immortals a son-in-law of Zeus": *οὕνεκ' ἔχεις Ἑλένην, καί σφιν γαμβρὸς Διός ἐσσι.* The line cannot be otherwise translated, and all the translations agree—the Latin, for instance: *"quoniam habes Helenam et ipsius Jovis gener es."* The verse (561) quoted by Maury, *Σοὶ δ'οὐ θέσφατόν ἐστι, Διοτρεφὲς ὦ Μενέλαε,* with the lines following, alludes to the fact for which the cause is given in v. 569; namely, that Menelaus is not to die but will go to the Elysian Fields because, *etc.* If we knew the passage only from Maury's version of it, we would conclude that it asserts a moral principle which really is not there.

696 [1] On Jan. 25, 1910, a great crowd was gathered in the Piazza d'Armi in Turin waiting for the Sun to go down in order to see the comet. The comet not appearing at once, many people began to hoot and whistle as Italians do in a theatre. Yet certainly not a person in the crowd imagined that the comet had a "soul." There was nothing to it except one of those impulses whereby we treat human beings, animals, and things alike. In his *Journal of a Cruise Made to the Pacific Ocean,* Vol. II, p. 31, Admiral Porter describes the pleasure and admiration evinced

697. But that proves nothing as to primitive peoples. We have to go on and examine the facts about them directly. Tylor cautions that his researches were conducted on two principles:[1] "First, as to the religious doctrines and practices examined, these are treated as belonging to theological systems devised by human reason, without supernatural aid or revelation; in other words, as being developments of Natural Religion. Second, as to the connexion between similar ideas and rites in the religions of the savage and the civilized world."

698. The first principle aims at solving *a priori* a problem that ought to get its solution strictly from observations of fact. There is nothing to justify our seeing in religious doctrines and practices mere products of reason, so excluding non-logical conduct; and it is evident that if we exclude them *a priori,* we shall not be able to find them afterwards in the facts. What follows substantiates that criticism: "What the doctrine of the soul is among the lower races, may be explained in stating the present [the animistic] theory of its development." The sentence exemplifies the usual errors of that method of reasoning: 1. The metaphysical abstraction "soul" is taken as a real thing. Every man that has eyes sees the Sun; one may therefore ask what notion—often it is a very hazy one—he has of it. But before we can find out what notion he has of the soul, we must know whether he has in mind any concept at all correspond-

by the natives of Madison Island on seeing a cannon fired: "They hugged and kissed the gun, lay down beside it, and fondled it with the utmost delight, and at length slung it to two poles and carried it toward the mountain"—as they had been ordered to do by Porter. The natives had no idea that the cannon was an animate being. They were merely expressing certain feelings of admiration provoked by its power. See, further, Erman, *Aegyptische Religion,* p. 7 (Johns, pp. 7-9). Noting the great discordance of Egyptian views about the cosmos, Erman adds: "Later on the Egypt of the historical period made up its picture of the world out of all these different features, mixing them together more or less haphazard, indifferent to the inconsistencies and impossibilities to which it was calling public attention. The sky is represented as a cow, with the bark of the Sun sailing on its belly. The sky is an ocean, yet the Sun was engendered by it. The Sun-god is a scarab and at the same time the scarab's eye. The names and images that are made to fit these different conceptions are jumbled together in a thorough-going mixture." Something of the sort is observable in Greek mythology.

697 [1] *Primitive Culture,* 1871, Vol. I, pp. 386-87; 1873, Vol. I, pp. 427-28.

ing to such a term. 2. The attempt to reconstruct theories held by primitive peoples on the basis of our present-day ideas as civilized people. In that way we get not the theories of primitive peoples, if any they have, but—a wholly different matter—the theories that we would evolve were we to put aside certain ideas we hold, a certain part of our knowledge, and then to work, with our logic, strictly on the concepts and knowledge remaining.

699. In fact, Tylor continues: "It seems as though thinking men, as yet at a low level of culture were deeply impressed by two groups of biological problems. In the first place, what is it that makes the difference between a living body and a dead one; what causes waking, sleep, trance, disease, death? In the second place, what are those human shapes which appear in dreams and visions? Looking at these two groups of phenomena, the ancient savage philosophers probably made their first step by the obvious inference that there is in every man two things belonging to him, namely, a life and a phantom. These two are evidently in close connexion with the body, the life as enabling it to feel and think and act, the phantom as being its image or second self; both, also, are perceived to be things separable from the body, the life as able to go away and leave it insensible or dead, the phantom as appearing to people at a distance from it."

700. That method of approaching phenomena, though slightly better, starts with the same principles that are used by Rousseau (§ 821)—putting facts aside, and trusting wholly to imagination. Of course if primitive peoples ever had their Aristotle, he may have managed to think with that rigorous logic on the metaphysical abstractions in question; but we may well wonder whether such an Aristotle ever was. Furthermore, after once reasoning so well mankind must have forgotten the art; for in historical times we find a thinking that is far from being as logical and luminous as the thoughts gratuitously ascribed to our savage ancestors.

701. We are not asking how savage or backward peoples *must* have reasoned, but rather how they actually reason. We are not trying to brush the facts aside, as is done in the method dear to Rous-

seau (§ 821) and his imitators: we are trying, instead, to put imagination aside as far as we possibly can and stick as close to the facts as we possibly can. Now there is an exceedingly large body of fact which goes to show that savage or backward peoples have little or no inclination towards abstract thinking, that they are very far from presuming to solve metaphysical or philosophical problems, or even problems to some little extent abstract, and that often they evince virtually no curiosity regarding them.[1]

702. Of a Negro tribe called the Mandingos, Mungo Park writes:[1]

701 [1] *Cf.* Captain Cook, *Account of a Voyage to the Pacific Ocean,* Vol. II, p. 310. Of the natives of Nootka (North America) Cook remarks: "Their other passions appear to lie dormant, especially their curiosity. Few expressed any desire or inclination to see or examine things with which they were unacquainted; and which, to a curious observer, would have appeared astonishing. If they could procure the articles they knew and wanted, they were perfectly satisfied; regarding everything else with great indifference. Nor did our persons, dress, and behaviour (though so very different from their own), or even the size and construction of our ships, seem to excite their admiration or attention." [Cook's texts show so many formal variants as to read like different writings. We follow the edition of 1784.—A. L.] Pruneau de Pommegorge, in Hovelacque, *Les Nègres de l'Afrique sus-équatoriale,* p. 29: "Not being able to imagine that, as I had been informed, they [the Sereres] had no religion, and finding myself one afternoon at sunset on the seashore with five or six men well on in years, I asked them through an interpreter if they knew who had made that Sun which was about to disappear . . . finally if they knew the sky and the stars that would be visible an hour thence. At my question the old men looked at each other as though nonplussed and made no answer. However, after a moment's silence, one of them asked me if I knew all those things." Pommegorge is not aware that from the standpoint of experimental science the knowledge he thinks he has of Him who made the Sun is worth less, much less, than the so frankly manifested ignorance of those Negroes. Of a Madison Island chief, Admiral Porter observes, *Op. cit.,* Vol. II, pp. 27-28: "After he had been a short time on deck, I endeavoured to impress him with a high opinion of our force; and for this purpose assembled all of my crew. It scarcely seemed to excite his attention. I then caused a gun to be fired, which seemed to produce no other effect on him than that of pain: he complained that it hurt his ears. I then invited him below where nothing whatever excited his attention until I showed him some whales' teeth. . . . I asked him if he had seen anything in the ship that pleased him—if he did to name it and it should be his. He told me he had seen nothing which had pleased him so much as one of the small whales' teeth." Hovelacque, *Op. cit.,* p. 456: "Abstraction is altogether outside his [the Negro's] powers of conception. There are no abstract words in his language. Only tangible objects are able to catch his interest. As for any generalizing, as for getting any sort of systematization from the mass of material phenomena, they should not be expected of him."

702 [1] *Travels and Recent Discoveries in the Interior Districts of Africa,* London, pp. 271-74; New York, pp. 306-09.

"I frequently enquired of some of them what became of the sun during the night, and whether we should see the same sun or a different one in the morning; but I found that they considered the questions as very childish. The subject appeared to them as placed beyond the reach of human investigation: they had never indulged a conjecture nor formed any hypothesis about the matter." Park asserts, however, that "the belief of one God and of a future state of reward and punishment is entire and universal among them." But one may wonder whether he has not to some extent credited them with ideas of his own, for he proceeds to note things not quite consistent with such a belief: "If they are asked for what reason then do they offer up a prayer on the appearance of the new moon, the answer is that custom has made it necessary: they do it, because their fathers did it before them. Such is the blindness of unassisted nature!" And farther along: "When interrogated in particular concerning their ideas of a future state, they express themselves with great reverence, but endeavour to shorten the discussion by observing *'Mo o mo inta allo!'* [No man knows anything about it!] They are content, they say, to follow the precepts and examples of their forefathers through the various vicissitudes of life; and when this world presents no objects of enjoyment or of comfort, they seem to look with anxiety towards another, which they believe to be better suited to their natures, but concerning which they are far from indulging vain and delusive conjectures." [2]

703. All that by no means precludes there having been peoples

702 [2] Similar observations are to be found in Burchell, *Travels in the Interior of Southern Africa,* Vol. II, p. 427: "I found no difficulty in making him [a Bachapin] sensible of a future state of existence, as the Bachapins seemed to possess some confused notions of this kind; but of their belief in retributive justice after death, I never could gain any clear account. [Of course one cannot discover what is not there!] Neither did it appear to me that they had any very sublime idea of the soul or of immortality [Or of solid geometry either, one might guess]. Of the worldly superintendence of a Supreme Power, they are not ignorant; but their knowledge is so mingled with superstition, that this can be of little practical benefit to their moral conduct or religious feelings. These superstitious notions could only have been the offsprings of the weakest mind; and the respect which continues to be paid to them proves, better than any argument, how low is the state of intellect and reason among these people."

with a theory of animism such as Tylor outlines (§ 694). Indeed, there certainly have been such peoples. But it is not in the least proved, either, that animism is the "origin" of religion or a simple form of more evolved religions.[1]

704. Herbert Spencer's refutation of animism has the same defects as the theory itself. He marshals facts to show[1] that "in the ascent from low to high types of creatures, the power of distinguishing the animate from the inanimate increases." The tests used to distinguish them are at first very vague and then gradually become more precise. First they are very general; then they are specialized; finally the classification becomes less often erroneous. "First *motion,* then *spontaneous* motion, then *adapted* spontaneous motion are the successive tests used as intelligence progresses." These observations are true in substance, erroneous in form—and unhappily, the form prevails in the bulk of Spencer's argument. What Spencer calls "classification" is a classification for us, but not for the animals that make it.

705. Let us go back for a moment to Fabre's experiments on the Cerceres (§ 155). In order to provide their grubs with living but paralyzed prey, those insects "select" certain species of Coleoptera. The term "select" has to be explained. If we say that the Cerceres select those particular Coleoptera, we are describing the objective end (§ 151), and in that sense the statement is true. But no one would grant that Cerceres use classifications like ours and that they select their Coleoptera the way an entomologist classifying insects might select them. We do not know how or why the Cerceres make their

703 [1] Tylor, *Ibid.,* 1871, Vol. I, pp. 377 f.; 1873, pp. 418 f., rejects the testimony of several travellers that certain peoples had religions, in the light of the contrary testimony of other travellers. [I suspect a misprint, the dropping of a *non* before *avevano* in Pareto's text. What Tylor rejects is the testimony that certain peoples had *no* religion.—A. L.] He is right in some instances. He may be right in others, and wrong in still others; for there is no way of showing that the negative testimony is always more credible than the positive. The fact stands in any event that savages in general are little prone to abstract thinking; and it is not at all certain that the concept "soul" which travellers attribute to them is identical with our "soul." The authenticated case of the Greek ψυχή is sufficient warning as to the ease of one's going wrong in such interpretations (§ 695 [1]).

704 [1] *Principles of Sociology,* Vol. I, § 64.

choices; but we can be certain that they do not make them by the rational, scientific methods of the entomologist. Similar facts are observable for human beings, and their non-logical conduct must not be confused with such logical actions as are involved in a scientific classification.

706. Spencer extends logical conduct to animals. Says he, § 63: "Yet a further test used by intelligent animals to discriminate the living from the not-living is the *adaptation* of motion to ends. Amusing herself with a mouse she has caught, the cat, if it remains long stationary, touches it with her paw to make it run. Obviously the thought is that a living thing disturbed will try to escape, and so bring a renewal of the chase. Not only is it expected that there will be self-produced motion; but it is expected that this motion will be away from danger." Roughly the facts are as stated; the description of them is entirely misleading, and the error lies in assuming that the cat thinks like a logical human being.[1] 1. Animals do not have the abstract concepts of "living" and "not-living." One need only watch a dog attentively to be sure of that. Much less can they know what an "end" and an "adaptation" are. 2. There is nothing to warrant belief that the cat thinks that a living thing disturbed will try to escape. It is a habit of cats to touch any little object with their paws to make it move if possible; and it matters little, from that standpoint, whether the object be, for example, a pen-holder well known to them, or a mouse, or an insect. If anything is certain it is that they act as if they did not have the abstract notions of "living" and "not-living" with which Spencer credits them. 3. Similarly, they have none of the abstractions required for designating a mouse's movement as away from danger. To be convinced of that one need only tie a piece of paper to a string and drag it either towards the cat or away from it. The cat jumps at the ball whether it moves in one direction or the other. Leave the paper at rest in the middle of the room, and after a time the cat will approach it and stir it with its paw exactly as it does in playing with a mouse. There is not the

706 [1] On this point see Martello, *L'economia moderna e la odierna crisi del darwinismo.*

slightest difference, and yet we cannot say with Spencer that the cat is arguing that "a living thing disturbed will try to escape." In case one should object that the cat thinks the paper ball a living thing, that would only mean that it is incapable of distinguishing the living from the not-living, and Spencer's whole argument crumbles. In any case it is clearly apparent that Spencer has merely translated the non-logical conduct of the cat into terms of logical conduct. Others translate the non-logical conduct of human beings in the same way.

707. Spencer himself moves on from animals to human beings. "Shall we say," he asks, § 65, "that the primitive man is less intelligent than the lower mammals, less intelligent than birds and reptiles, less intelligent even than insects? Unless we say this, we must say that the primitive man distinguishes the living from the not-living; and if we credit him with intelligence higher than that of brutes, we must infer that he distinguishes the living from the not-living better than brutes do." That method of reasoning would be sound enough if conduct were all strictly logical; but it is not of the slightest value as regards non-logical actions. It proves too much, and therefore proves nothing. If it were valid, it would follow that since the human being is certainly more intelligent than the Cerceres, he ought to recognize kinds of Coleoptera on which the Cerceres prey better than they do. But go to the most intelligent individual you know, someone even who is up to date in all the sciences except entomology, and ask him to find one of those Coleoptera for you. He will be absolutely unable to do so.

708. Spencer has another animistic theory, which involves him in a neo-euhemerism, the point of arrival being the same as in the ancient, but the proof different. Ancient euhemerism had pseudo-historical proofs (the *ego ipse vidi* of Euhemerus). This new system rests on the implications of certain facts that *seem probable to us*—something analogous to the evolution in religious theory which substitutes inner experience for external authority (§ 627).

709. Spencer assumes that the savage interprets dreams, trance phenomena, death, with rigorous logic. By a series of ingenious inferences primitive man arrives at the conclusion that human beings

have doubles which may separate themselves from the body, and then extends that conclusion to plants and inanimate objects. Since syncope and catalepsis are mere temporary states, the savage, reasoning as Spencer, *Ibid.*, § 99, thinks he ought to reason, believes that death also is temporary, or, if permanent, is so because the double is kept away from the body too long: "Belief in re-animation implies belief in a subsequent life." Hence, with the same logic, arises the idea of another world, *Ibid.*, § 114: "The transition from a mountain abode to an abode in the sky, conceived as the sky is by primitive men, presents no difficulties." So now we have the sky peopled with the doubles of human beings. "But . . . besides the above origin, carrying with it the belief that departed souls of men live on the mountain-tops, or in the heavens, there is another possible, and indeed probable, origin, not carrying such a conclusion; but, contrariwise, restricting this heavenly abode to a different race of beings." It is "an invading race which, bringing knowledge, skill, arts and implements, unknown to the natives, were regarded as beings of superior kind, just as civilized men now are by savages." These conquerors established themselves on the heights near the clouds, and became inhabitants of the sky, divinities.

710. The origin of the gods once determined in this manner, the rest of religion comes easily. Says Spencer, § 162: ". . . the worship of the fetich is the worship of an indwelling ghost, or a supernatural being derived from the ghost." § 164: "Propitiation of the dead, which, originating funeral rites, develops into the observances constituting worship in general, has thus among its other divergent results idol-worship and fetich-worship." [1]

711. Spencer's theory is neither better nor worse than other similar theories. They all have one trait in common: Certain conjectures roughly compatible with observable fact are taken as premises; then this or that conclusion is drawn, reasoning as one *thinks* primitive man *must* have reasoned. That tells us the way things went in times on which we have no historical, no experimental, data of any kind.

710 [1] Spencer also explains totemism and myths such as the solar myth by his theory. See our § 793.

712. These theories undoubtedly contain a certain amount of experimental truth. They go wrong in leaping from the particular to the general, like a person seeing a forest of pine-trees and concluding that all forests are of pine. In totemism the experimentally true part is very considerable. Salomon Reinach suggests stating the code of totemism as follows:[1] "1. Certain animals are neither killed nor eaten, but some few specimens are raised and cared for. 2. The accidental death of such an animal is regularly mourned and it is buried with the honours customarily accorded to human members of the clan. 3. Sometimes the alimentary interdiction applies only to some part of the animal's body. 4. When animals ordinarily exempt from slaughter are killed in view of some urgent necessity, excuses are offered to them and efforts are made in various ways to mitigate the violation of the taboo—the slaughter of the animal. 5. After a tabooed animal has been sacrificed according to ritual it is mourned. 6. The skins of certain animals are worn by human beings, especially in religious ceremonies. Where totemism prevails, such animals are totems. 7. Clans and their individual members have animal names. Where totemism prevails, such animals are totems. 8. Some clans decorate their banners and weapons with pictures of animals and certain individuals paint or tattoo them on their bodies. 9. It is assumed that totem animals of species dangerous to human beings spare members of the totemic clan, but only provided they are such by birth. 10. Totem animals help and protect members of the totemic clan. 11. Totem animals reveal the future to their worshippers and guide their conduct. 12. Members of a totemic clan often believe themselves related by blood-descent to the totem animal."

713. This code is too particularized, too definite. It would be truer to the facts to say that totemism, as understood by one writer or another (§ 718[1]), is a state of mind in which certain animals are respected, honoured, revered, human beings considering themselves bound to them by certain ties, doing them favours, and expecting favours in return.[1]

712 [1] *Cultes, mythes et religions,* Vol. I, pp. 17-26.

713 [1] More recently in his *Orpheus,* Chap. I, § 28 (Simmonds, pp. 13-14), Reinach does not press the complete code: "It is difficult to define totemism. We may say,

714. Many writers have dealt with these phenomena, usually trying to prove general what is strictly particular. Totemism has been regarded as nothing less than the "origin" of religion, and whenever some fancy even remotely suggesting totemism has been found, it has been taken as proof of the existence of totemism in that locality. Reinach uses such proofs in large numbers and Frazer is more extreme still, taking the slightest allusion to an animal as proof of the presence of totemism.

715. Unwittingly, doubtless, such writers reason after the manner of the palaeontologist who, given a few fossil bones, is able to reconstruct the whole animal from which they came. But the two cases are very different. The animal is an individual unit where the parts stand in necessary relations—dentition with feeding, for instance. Nothing of the kind obtains in the arbitrary complex to which the term "totemism" has been applied. A lion's jaw cannot belong to a herbivorous animal; but it is quite possible for the fact that honours are paid to an animal to have no connexion with any of the other characteristics said to be peculiar to totemism.

716. Let us, as usual, see what experience has to say (§ 547). Suppose some centuries hence only a few isolated facts are available as to the Florentine Republic. It will be evident that the Republic kept lions, that the street where they lived was called the Via dei Leoni, a name it bore for centuries. Excavations conducted on the site of Florence yield any quantity of little stone lions called *marzocchi*. It is further known that when the Republic conquered a place a column topped by a *marzocco* was erected there. And what not? There are legends to show that lions respected Florentine citizens

subject to more detailed definition hereafter, that it is a sort of worship that is paid to animals and plants considered as allies and kindred of the human being." Frazer, *Totemism*, pp. 1-2: "A totem is a class of material objects which a savage regards with superstitious respect, believing that there exists between him and every member of the class an intimate and altogether special relation. . . . The connexion between a man and his totem is mutually beneficent: the totem protects the man, and the man shows his respect for the totem in various ways, by not killing it if it be an animal, and not cutting or gathering it if it be a plant. As distinguished from a fetich, a totem is never an isolated individual, but always a class of objects, generally a species of animals or of plants, more rarely a class of inanimate natural objects, very rarely a class of artificial objects."

exactly as the code of totemism requires. So one could marshal a mass of evidence far more impressive than is required to satisfy the champions of totemism in such cases; and if we are to follow them in their reasoning, we are forced to admit that the lion was the totem of the Florentines in the days of their Republic. And yet we are certain that that was not the case; nor is there the slightest probability that the *marzocco* was the Florentine totem in times more ancient, say in the days of the Roman Republic, or in some epoch still more remote. If such a mass of fact does not prove totemism in this case, how are proofs fewer in number and less significant to do so in similar cases? [1]

717. At Muri (near Berne) in Switzerland a group design repre-

716 [1] Villani, *Cronica,* Bk. VI, Chap. 69: "At the time of the People of Florence, a very handsome and mighty lion was presented to the Commune, and it was caged in the Piazza di San Giovanni. It came to pass that through the remissness of its guard, the lion escaped from its coop and began running through the streets, whereat all the city was terrified. And it chanced to come to the Orto San Michele and there it seized a child and lay holding him between its paws. The child's cries were heard by his mother, who had no other child and had been with this child when the father died; and she ran upon the lion as if mad, wailing and tearing her hair, and snatched the child from the lion's paws. And the lion did no harm either to the woman or to the child; he only looked on, and did not stir. [All in strict obedience to Article 9 of Reinach's totemic code (§ 712).] There was a great question as to what chance it was, whether the gentleness of the lion's nature, or Fortune, which preserved the life of said child that he might grow up and avenge his father, as he afterwards did." What Villani calls the "gentleness of the lion's nature" was evidently the benevolence of the totem for its clan. One need only compare any number of totemistic explanations with this one to see that their proofs are not as strong, but that they are accepted in all conviction. If one had time to waste on such investigations, other documents could readily be found to support our totemistic interpretation of the Florentine *marzocco*—for example, Bayle, *Dictionnaire historique, s.v. Delphinus* (quoting Mabillon): "The inhabitants of Arezzo had torn down a stone lion (note by Bayle: "The coat-of-arms of the city of Florence.") that stood on the tower of the cathedral and thrown it into a well. When the French entered the city under Charles VIII, the lion was taken out and placed in the middle of the main street and all the inhabitants of the city who passed that way were obliged to kneel down before it and ask forgiveness for their revolt." If that were the only document known, what a pretty totemistic theory might be derived from it! The lion in question was a *marzocco,* and the episode is just one of the many historical instances of the compulsory saluting of a flag that has been insulted. Bayle's note makes everything clear. Without it, a person not knowing that the *marzocco* was the emblem of Florence might have imagined anything except a compulsory salute to a flag.

senting a goddess and a she-bear has been discovered—that, and nothing more. It has been taken as proving the existence of a totemic clan with the bear as totem.[1] If that is all the proof we need, why could we not just as well conclude that Venice was inhabited by a totemic clan with the lion as totem? In Venice we have something better than a single group. Designs representing a man and a lion can be seen there almost anywhere! We know that the man is St. Mark; but if we did not, we might take him for a god, just as the Swiss figure has been taken for a goddess. And if the goddess and her she-bear prove a totemic clan, why should not St. Mark and his lion serve the same purpose?

If the argument in the case of the Berne group were designed merely to suggest a line of inquiry, it might be considered, for in that case it would work equally well for Florence and Venice. As regards Berne, the investigation can go no farther for lack of documents, and we give up without reaching any conclusions. As for Florence and Venice, historical evidence is abundant, and we go on—to the conclusion that there is no trace of totemism there.

718. Totemism as understood by not a few writers presents a number of characteristics, *A, B, C, D. . . .* We have just seen that if *A* is present in a certain people, we can by no means infer that *B, C, D . . .* are present also. Conversely, if *A* is not present, we cannot conclude, either, that *B, C, D . . .* are not present.[1]

719. This latter consideration vitiates certain criticisms that Foucart makes of totemism. He observes, for example,[1] that "all the members of the Indian tribe call themselves descendants and relatives of the totem animal. Among the Egyptians only the chief is a descendant of the animal god. The Pharaoh of historic times is the only person who is a child of the Sparrow-hawk, who bears its name and is, in view of that, heir to the realm of the Sparrow-hawk,

717 [1] Reinach, *Cultes, mythes et religions,* Vol. I, pp. 55-58.

718 [1] One must not forget that there is no such thing as totemism in the sense in which there is such a thing as an animal called the elephant. What exists is a number of states of mind that certain writers have seen fit to gather into one class which they then proceed to designate as "totemism." How such a class is to be made up is within certain limits a matter of arbitrary choice.

719 [1] *La méthode comparative dans l'histoire des religions,* pp. 72-73.

and the latter's high-priest. The other individuals in the nation are not and do not pretend to be Sparrow-hawks." It is quite conceivable that the chieftains may have usurped something that formerly belonged to everyone and made it exclusively their own. But apart from that objection and others of the kind, Foucart's thesis would only prove that there are totemisms with the traits he indicates. It would prove nothing against totemism in general. Before it could prove anything in that direction totemism would have to be a single indivisible unit. The same thing might be said for his other strictures. What Foucart shows, in a word, is that, possibly, the totemic code of Reinach does not hold for Egypt as we know Egypt. He has by no means shown that the Egyptians did not have relations with animals similar to those described as totemism.[2] Similar objections may be made to the theory that religion originated in magic.

720. B-β3: *Historical facts are deviations from a type, or constitute a series with a limit.* Oftentimes in the view of their authors such theories contain a principle superior to experience, and ought therefore to be classified in A-γ (§ 575); but they are represented strictly as experimental theories and therefore belong here.[1]

719 [2] Foucart's argument, pp. 52-54, runs: "These animal-cults, which are so constant, so unvarying, in their characteristic traits, seem to be as ancient as Egyptian religion itself. They go back to its very origins, if one may presume to speak of times that we shall never know directly. . . . So there we have, in Egypt, the [essential] traits of zoolatry: gods of animal form, and human leaders who are their direct descendants. How did such a notion come into being? It must have derived from beliefs of the Egyptians, and from conceptions they had of the sensible world in which they moved. [So they began, good souls, by framing a theory of the sensible world and went on from there to invent their gods! The usual mania for logical interpretations! And what a complicated theory they worked out, according to Foucart!] . . . In their eyes everything in nature was alive, even what we call inanimate objects. Nature was made up of two elements [They even knew elements!]: a material wrapping, the body, and another element, subtler, invisible, but likewise material, to which they gave various names—soul, spirit, double. The combination [of the two elements] was indispensable if a body was to be alive." If Foucart had only added that those primitive peoples, living in times "that we shall never know directly," also invented algebra, his picture would be complete. See §§ 701, 695 [1].

720 [1] The contrast between the two varieties comes out very strikingly in certain passages in the *Doctrine Saint-Simonienne, Exposition, 2me séance,* 1854, pp. 82, 68 (Bouglé-Halévy, pp. 179-80, 158) (italicized words are so printed in the original French): "It is our task to show to an age that claims to be above all else *rational*

721. We find, for instance, the hypothesis of a primitive state of religious perfection. That state reappears in some contemporary religion, and the latter, naturally, is the "true" religion. Other religions exemplified in history are deviations, or degenerations, from the type. We also find the opposite hypothesis: The various historical religions are imperfect efforts gradually approximating perfection. The perfection here is located at the limit approximated through the deviations. In the other hypothesis it lay in the original religion and the deviations represented departure from it. Controversies as to primitive states of religious perfection are interesting primarily to attackers or defenders of Hebrew-Christian beliefs. They lie, therefore, in part, outside the domain of sociology.

722. For long centuries in Europe the primitive state of perfection was a dogma that could not be questioned without peril. Eventually the reaction came, and the dogma was superseded by another, not as yet enforced by the secular arm, which locates the state of perfection at the end of the evolution.

723. We must hold aloof from the controversy and keep strictly to the domain of experimental science. Believers also can stick to that domain, provided they are willing to distinguish faith from experience. That is what Father Marie-Joseph Lagrange does in his studies on Semitic religions, and what certain worshippers of the god Progress fail to do—notably Messrs. Aulard, Bayet & Co.[1]

that our *beliefs* as to the future of mankind, which have been revealed to us by a keen *sympathy* and an ardent *desire* to contribute to human happiness, are justified by the most rigorous *examination* of the facts. . . . We stated at the outset that Saint-Simon's conception was *verifiable* by history. Do not expect from us, however, any discussion of partial facts or any elucidation of details that are buried away in forgotten chronicles. [The usual procedure: experience is accepted in pretence, but then at once discarded.] We are to consider only the general laws that control (*dominent*) all such facts, laws as simple and as constant as those that govern the organization of the human body (? *de l'homme*). . . . It was Saint-Simon's mission to discover those laws, and he left them to the world as a sublime legacy. Our mission, as his disciples, is to carry on his revelation, to develop and propagate his noble ideas."

723 [1] *Etudes sur les religions sémitiques,* published with the *imprimatur* of the Archbishop of Paris. Says Father Lagrange, p. 1: "Our intention in studying Semitic religion has been simply to elucidate certain dark areas in the religions of the peoples that were neighbours or relatives of Israel. That domain has been so

724. Keeping strictly to the facts, we see that the development in religion does not show a uniformly progressive movement, *ab* (Figure 13), but follows an undulating line, *pqrst*, now rising, now falling.

far but scantily explored, and meantime discoveries in epigraphy are daily extending it. The wiser part, therefore, would surely be to halt at merely collecting the new facts and drawing the more certain conclusions from them. For our part, we have done our best to banish all preconceived ideas from our mind. We do not consider ourselves called upon to deal with the original Revelation, since the Scripture that transmits it to us also explains that it has been obliterated. [Theory of decadence from the type.] We have never yielded to the temptation of stressing the symptoms of religious degeneration more than was required." We need not decide here how far Father Lagrange succeeded in keeping his promise. It is evident enough from his book that it was made in all good faith. Compare his programme, now, with the programme of the official historiographer of the French Revolution, M. Aulard, in *Histoire politique de la révolution française,* Preface, p. v: "In this political history of the French Revolution, I intend to show how the principles of the Bill of Rights were carried out in institutions between the years 1789 and 1804, or interpreted in the speeches, writings, and acts of [political] parties and in the various manifestations of public opinion." M. Aulard is probably not aware that he is imitating Bossuet, who sets out in his *Discourse on Universal History* to show how the institutions and cultures of mankind have been governed by designs of Providence. Says Bossuet, *Discours,* Pt. III, Chap. I: "So all the great empires that have been seen on earth have contributed in one way or another to the welfare of religion and the glory of God, as God Himself declared through His prophets." M. Aulard continues: "The logical consequence of the principle of equality is democracy. The logical consequence of the principle of national sovereignty is the republic. [O unhappy Logic, how many stupidities are uttered in thy name!] Those two consequences were not drawn at once. [Because, unluckily for them, the people of those days did not have an expert logician handy, such as M. Aulard.] Instead of democracy the men of '89 set up a bourgeois system based on property qualifications; instead of the republic, they organized a limited monarchy." In the Aulard collection, M. Bayet published a little handbook for French elementary schools entitled *Lessons on Morals, Intermediate Grades* (*Leçons, etc.*). He apprises us, Preface, pp. i-ii, that his aim is to stress "the difference between scientific truths, which only the ignorant can refuse to recognize, and religious or metaphysical beliefs, which each of us has the right to accept, reject, or modify as he pleases." That is the mere metaphysics of "science," failing as it does to recognize the essentially contingent character of "scientific truths." If M. Bayet had any knowledge whatever of experimental science he would know that science is in process of continuous change and that it progresses precisely because scientists "refuse to recognize" certain principles that have always been regarded as "scientific truths." Among the "scientific truths" of M. Bayet one notes a very handsome theory of religion and another almost as pretty of the origin of religion. Says he, p. 155 (capitals and italics his): "Since we cannot know, scientifically, what takes place after death, men have tried to GUESS, and they have put forward no end of SPECULATIONS on the subject. Some

725. The mythologies of Hesiod and Homer are certainly less abstract, less fine-spun, than Plato's religion, which is also more abstract and subtle than the religion of the Gospels and the early Church Fathers. It seems probable that after an archaic period of high civilization ancient Greece experienced a Middle Ages followed by a Renaissance—something analogous to what took place in Europe between the days of the Roman Republic and our own.

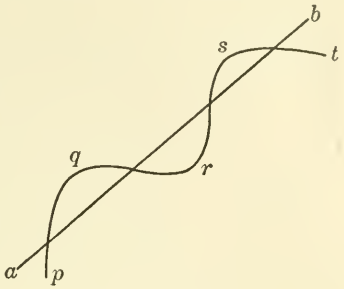

Figure 13

726. Our data on Egyptian religion seem to lead to similar conclusions. This shows a number of oscillations. In a study of the later religion of Ancient Egypt, Erman writes:[1] "Anyone who has followed the development of Egyptian religion thus far might imagine that it was advancing towards complete disintegration and an early end. Thoroughly exhausted, seeming as it were to survive itself, the Egyptian people had fallen prey to foreign conquerors. Nevertheless that aged people rose again and with it its religion took on a new life, if not a new youth. Towards the end of the eighth century [B.C.] we stumble on the remarkable symptom of a reversion towards the ideas of the people. . . . By that return to the old Egyptian spirit, religion itself acquired new strength, and to a greater degree than ever before permeated all branches of people's lives, as though it were their sole object in living. . . . But it was right there,

have said that after death NOTHING HAPPENS AT ALL. Others have thought that after death men stand in the presence of an *eternal being,* supremely good, supremely just: GOD. They have believed that God *judged* men, rewarding or punishing them. On that account they have said that men should *honour* and *worship* God, and they have fixed on the *prayers* with which He should be addressed and the ceremonies that should be performed in His honour. So a certain number of religions came into being." Bayet should have read an elementary text-book on the history of religions himself. Before setting out to teach other people, it is a credit to a man to have learned something on his own account. These estimable gentlemen, not being able to persuade others by argument, are now prosecuting anyone who fails to pay due respect to their profound science.

726 [1] *Aegyptische Religion,* pp. 169-70 (Johns, pp. 169-70).

under those conditions, that the strange side of the Egyptian faith, such as the worship of animals, attained its most exaggerated development."

727. Reasoning *a priori* one might be inclined to suppose that animal-worship in Egypt began by embracing a whole species of animals, becoming more restricted later on. But in the case of at least one of the oscillations accessible to observation the worship of one animal was extended to embrace all animals of the species. That, however, does not in the least prove that that particular oscillation had not been preceded by another in the opposite direction.

728. The theory that locates perfection at the end of an evolution is generally conjoined with another to which we have often alluded, and according to which present-day savages would be very similar to the prehistoric ancestors of the civilized peoples (§ 291). Two fixed points are thus obtained for determining the line of evolution, and by prolonging it sufficiently people obtain, or think they obtain, the limit that the evolution will approximate in the future.

729. Spencer, for instance, would combat the theory that attributes ancestor-worship to inferior races. It is surprising, he objects,[1] "that adherents of the Evolution-doctrine should admit a distinction so profound between the minds of different human races. . . . Those who believe in creation by manufacture, may consistently hold that Aryans and Semites were supernaturally endowed with higher conceptions than Turanians. If species of animals were separately made with fundamental differences, varieties of men may have been so too. But to assert that the human type has been derived from lower types, and then to deny that the superior human races have been evolved, mentally as well as physically, from the inferior, and must once have had those general conceptions which the inferior still have, is a marvellous inconsistency."

730. That is metaphysical and not scientific thinking. In the first place, the relations between facts of the present and facts of the past cannot be confined within the alternative of either creation or unitary evolution (§ 344). In the second place, accepting for the moment

729 [1] *Principles of Sociology*, Vol. I, § 150.

the doctrine of a unitary evolution, it is not proved that the backward races of our day are identical with our prehistoric ancestors. The probability, rather, is that they differ greatly, for the reason—if for no other—that they were lacking in those qualities which resulted in civilizing our races. Nor is there any proof, either, that mental evolution has to run parallel with physical evolution. Finally, even if it did, why might it not have sent off two branches, *A* and *B*, from a common trunk, *M*, one of which has ended in ancestor-worship, the other in a different belief? Just such an evolution has certainly taken place on the physical side, on the assumption of a common trunk, *M*, since we now have at least three racial branches, the white, the black, and the red.

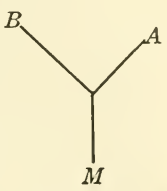

Figure 14

731. The theory that contemporary savages are identical with, or at least similar to, the prehistoric ancestors of civilized peoples has many opponents nowadays. But as usual people have gone from one extreme to the other and now assert that savages represent the senility rather than the infancy of the human races. That, evidently, is a consequence of the belief that locates the perfect state at the beginning of evolution instead of at the end. But the facts elude such *a priori* syntheses. If the ancient Gauls as they stood before the Roman invasion have to be compared either with savages or with the Frenchmen of our day, it is clear that they stand closer to the former than to the latter; and, conversely, one could not admit that the savages of our day are less like the ancient Gauls than like modern Frenchmen.[1]

731 [1] De Morgan, *Les premières civilisations*, p. 45: "The Homo (Pithecanthropus) alalus . . . still unable to speak, Haeckel's Homo stupidus, Mortillet's Anthropopithecus Bourgeoisi and Ribeiroi, are hypothetical creatures whose existence rests on nothing but guesswork devoid of definite scientific basis. That theory implies the original unity of the human species, which seems to be true of the races living today but may not have been for others that have disappeared. Those theories are altogether gratuitous, beyond any doubt; but they have nevertheless acquired status as axioms in the minds of many people and have served during recent years as foundations for a number of theories in which fancy takes the place of scientific thinking. [Note by De Morgan: "Élisée Reclus, among others, carries things to a ridiculous extreme in his *L'homme et la terre*. He goes so far as to regard domestic ani-

732. If the "historical series" of the Saint-Simonians be considered from the standpoint of the experimental demonstration that they think they can give of it, it belongs in this present category, B-β3, as does also Comte's theory of the "three phases" and further, Spencer's theory of "pre-morality." Spencer tries to derive morality from experience. He encounters facts that are not in accord with his ideas, and to be rid of them says that they belong not to morality but to "pre-morality." [1]

733. B-β4: *Myths and the like are imitations of other myths.* According to this principle, whenever two institutions are similar, one is held to be a copy of the other. Here again the error lies merely in trying at all costs to generalize a fact that may be altogether true in the particular case, and in so overstepping experience.

734. As usual, let us fall back on the method suggested in § 547. We have remarkable instances of almost identical institutions that seem really not to have been copied from one another. Describing a custom at Marseilles Petronius writes: [1] "Whenever the Marsilians were harassed by plague, some beggar used to volunteer to be supported in the greatest luxury at public expense for a whole year. Then clad in sacred vestments and decked with vervain, he was

mals (in view of improvements they have made) as 'candidates for humanity.' "] Not a few scientists, or self-styled scientists, regard the Pithecanthropus as our ancestor. There is no proof of any such descent. Not a single fact justifies the assertion that he was an ancestral form of man, or related even in a very remote way to our species. [Note by De Morgan:] Another theory tends to regard the simians as degenerate branches of the human race. *Cf.* J. H. F. Kohlbrugge, *Die morphologische Abstammung des Menschen,* Stuttgart, 1908."

732 [1] [An allusion apparently to Spencer's theory of an "intuitive moral sense." *Cf. Social Static,* pp. 17-19.—A. L.] For the historical series of Saint-Simon see *Doctrine Saint-Simonienne, Exposition,* 1854, pp. 18-19; Bouglé-Halévy, pp. 92-93 (italics and capitals as in the original): "But what is this new manner of envisaging *history,* of, as it were, asking the *past* to foretell the *future* of humanity? What is the value of the *proof* we offer in support of our dreams for that future? A new science, a science as *positive* as any other deserving of that title, was conceived by Saint-Simon —the science of the *human species.* His method is the method used in astronomy or in physics. Facts are classified by series of homogeneous terms and related in the order of *generalization* and *particularization,* so as to bring out their TENDENCY, show, in other words, the law of *increase* and *decrease* to which they are subject."

734 [1] *Fragmenta,* I (Buechler, p. 109). The fragment was preserved by Servius, *Ad Vergilii Aeneidem,* III, v. 57 (Thilo-Hagen, Vol. I, p. 346).

borne about the streets of the city [saluted everywhere] with curses that all the city's woes might fall on him, and finally he was thrown [into the sea]."

735. The Aztecs in Mexico observed a similar ceremony every year. They chose a young man from among their prisoners. "So designated for sacrifice a year in advance," writes Lucien Biart,[1] "the youth was dressed like the idol [of the god Tezcatlipoca]. He was free to walk the streets of the city, though always under guard, and was paid the same worship as the image of the supreme divinity. Twenty days before the god's festival the unlucky youth was married to four girls, and on the last five days efforts were made to procure him every possible enjoyment. On the morning of the ceremony he was escorted to the temple with great pomp. Just before arriving thither he bade his wives adieu. He then walked beside the idol in the procession. . . . When the hour for the sacrifice was at hand, he was stretched on the altar, where the high-priest, in a most reverent manner, cut open his breast and crushed his heart." [2]

736. The common conception of a whole year's enjoyment followed by death was not transmitted from the ancient Marsilians to the ancient Mexicans, nor *vice versa.* It arose spontaneously in both places. The same conception figures in another more general one in which human beings have ever delighted—the desire to bring

735 [1] *Les Aztèques,* pp. 125-26.

735 [2] And *cf.* Réville, *Les religions du Méxique,* pp. 135-36: "He was clothed in the vestments and decorations of Tezcatlipoca, and when he appeared about the town with an escort of eight pages in royal livery he was worshipped by the people as the divinity itself. The most attentive care was taken of him. He was bathed and perfumed and provided with a head-dress. His divine uniform was ever new. He was given four young wives chosen for their beauty. They bore the names of goddesses and were instructed to overlook nothing that might make their divine husband as happy as possible. During the three weeks preceding the ceremony these honorific distinctions were multiplied. . . . But on the next to the last day of the festival Tezcatlipoca's substitute was placed aboard a royal barge with his eight pages and his four goddesses and rowed across the lake. That evening the goddesses left their unlucky god and the eight pages escorted him to a lonely *teotcali,* some six miles farther along. He mounted the steps, breaking his flutes one by one. Reaching the top, he was seized by the priests who stood there waiting, stretched without warning on the sacrificial stone, cut open, and his quivering heart was proffered as a sacrifice to the Sun."

contraries, opposites, together (§§ 910 f.). From it numberless branches radiate.

737. Reinach, following Frazer's *Golden Bough,* Vol. III, p. 197, notes one such branch, which in its turn, forks into others[1]—"a periodic custom similar to the Roman Saturnalia and characterized by the temporary suspension of civil and moral laws. . . . The characteristic trait of the Saturnalia was the licence permitted to slaves, who became for a time masters of the house. [There we have the contrast. In the Middle Ages there will be another contrast similar, though not identical, in All Fools' Day—the *fête des Foux.*] . . .[2]

737 [1] *Cultes, mythes et religions,* Vol. I, pp. 332-34.

737 [2] Le Bibliophile Jacob, *Curiosités de l'histoire de France,* pp. 14-31. Beleth, *De quadam libertate decembris* (in his *Divinorum officiorum rationale,* pp. 125-26), calls All Fools' Day " 'December freedom,' on the model of the pagan Saturnalia. The 'freedom' lay in an inversion of rôles and ranks in the clergy, who played all sorts of pranks inside the churches during the Christmas holidays and at Twelfth-night. Clerks, deacons, and subdeacons said mass in place of the priests. The priests danced, shook dice, played at ball, bowls, and other games of chance in front of the altar. The choir-boys masqueraded in costume and occupied the stalls of the canons. On Holy Innocents' Eve they elected one of their number bishop, clothed him in episcopal robes, anointed him, and paraded him about town to the ringing of bells and with bands of music. At the Feast of the Circumcision the churchmen appeared at mass, some in female attire, some dressed as clowns or street-performers, others with their capes and cassocks inside out [Principle of contrast.], and almost all wearing grotesque false faces. They then proceeded to elect a 'Bishop,' or 'Archbishop of Fools.' . . . At Antibes . . . the actors in the festival rushed into the stalls in the choir with their sacerdotal robes inside out [Again the contrast.] or in tatters, and capered about like people who had lost their minds. They held their prayer-books upside down, pretended to read through spectacles with orange-skins in place of lenses, and dusted each other with ashes or flour." Du Cange, *Glossarium ad scriptores mediae et infimae Latinitatis, s.v. Kalendae,* quotes a letter of Charles VII, King of France, dated Apr. 17, 1445: "Our beloved and loyal councillor, the Bishop of Troyes, has represented and complained to us that although . . . by decree of the Council of Basel [*Anno* 1431, *Sessio* XX, *Cap.* 11: Labbe, Vol. XVII, p. 322], it is expressly forbidden to ministers and attendants of the Church to participate in a certain mocking and scandalous festival that is called the 'Festival of Fools,' which is usual during the Christmas octave and holidays in not a few churches, cathedrals, and other chapter-houses, wherein said churchmen commit irreverences and mockeries towards God the Creator and His holy and divine services, to the grievous discredit and disrepute of the ecclesiastical calling at large, nevertheless, said churchmen in all churches and holy places during divine service, as well as outside, continue to utter great insolences, mockeries, and irreverences, with public spectacles and masquerades, using indecent attire unbecoming their state and profession, such as the raiment and garb of clowns, soldiers, and other secular occupations, some wearing female raiment, masks, false faces. . . ."

In the provinces things were the same but, if I may so put it, with more archaic traits. [Perhaps, but Reinach gives no proof of any such archaism.] We know the details of the Saturnalian festival from a troop of Roman soldiers encamped on the Danube, at Durostolum [ruins of Drst-Ostrov, Bulgaria], during the reigns of Maximian and Diocletian—they are recorded in an account of the martyrdom of St. Dasius published by M. Cumont. [Such a source is in itself suspect. The *Acta* of the martyrs often contain more piety than historical truth.] Thirty days before the festival the soldiers picked a good-looking young man by lot. They dressed him up as a king and pretended that he was the good king Saturn. He paraded the streets attended by a brilliant escort and had the right to use and abuse his power. On the thirtieth day he was obliged to kill himself on the altar of the god Saturn whom he had been impersonating. . . . In the classical period the King of the Saturnalia in Rome was no more than a vaudeville king—an inoffensive dolt. But the story of St. Dasius seems to prove that in more ancient times the king lost his life with his crown." The usual error of assuming that evolution can take place only along a continuous line (§ 344)! Accepting the story of St. Dasius as true, why should that episode, which took place *after* the institution of the Saturnalia in Rome, have to represent something that took place *before* the Saturnalia and of which they, the Saturnalia, would be a consequence? And at just what point on such a continuous line are we to locate the Mexican rite? It is more probable that the rite of Tezcatlipoca, the orgy at Marseilles, and other similar things, are like the points *A, B, C, D* . . . on branches shooting off from a common source, *T,* among which there may be some, such as the Roman Saturnalia, *E,* and the French All Fools' Day, *F,* which in fact represent an evolution in a continuous line. Reinach adds, p. 334: "Customs similar to the Roman Saturnalia prevailed in Crete, Thessaly, Olympia, Rhodes, and other places. . . . More curious still was the festival of the Sacaea, in Babylon, which lasted five days. As was the case in Rome, the slaves

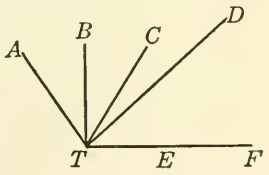

Figure 15

became masters, and in each household a slave dressed as the king and bearing the title of Zoganes wielded an ephemeral power. Moreover a condemned criminal was dressed as the king and was authorized to conduct himself accordingly, to the point of frequenting the royal concubines. At the end of the holiday, he was stripped of his fine vestments, flogged, and either hanged or crucified." Reinach further notes the resemblance between these cases and the story of Esther and another festival that was celebrated in Persia; and he goes on to describe a historical episode reported by Philo as having occurred at Alexandria. These resemblances to accounts of the Passion of Jesus tend, according to Reinach, to show that the latter was a myth.[3]

738. Reinach might have carried his analogies much farther, and he would readily have found any quantity of episodes, stories, legends, in which contrasts are set up between extreme felicity on the one hand and extreme misery on the other, or in which, ironically or otherwise, the semblances of power are conferred upon the wretch, and *vice versa*. The literatures of all lands draw liberally on

737 [3] *Orpheus,* Chap. VIII, § 36 (Simmonds, p. 229): "The details of the Passion bear a very suspicious resemblance to rites that were common in certain festivals of much earlier date. . . . At the feast of the Sacaea in Babylonia and Persia, a condemned criminal was paraded in triumph in royal robes. At the end of the holi day he was stripped of his fine raiment, scourged, and then hanged or crucified. We know from Philo that the populace of Alexandria called one such momentary king by the name of Karabas, overwhelming him with mock honours and then mistreating him. But Karabas means nothing, either in Aramaic or Greek. We must read Barabbas, which means in Aramaic 'son of the father.' . . . These collations indicate that Jesus may have been put to death not in preference to Barabbas but *as a* Barabbas. The authors of the Gospels understood neither the ceremony they were describing nor the character of the mock honours paid to Jesus." [The story appears in Philo, *In Flaccum,* VI (Cohn, Vol. VI, pp. 127-28; Yonge, Vol. IV, pp. 68-69). Journeying from Rome to Palestine whither he has been appointed as "King of the Jews," Agrippa decides to stop at Alexandria, where anti-Semitic sentiment is rife. Flaccus, the procurator, grudgingly accords him royal honours, the populace joining in with enthusiasm in turning the celebrations into a mockery, so absurd does it seem to them that there could be a "King of the Jews." Among other things they take a half-wit named Karabas, crown him as "King of the Jews" and escort him with mock-royal honours about the city. Philo upbraids Flaccus for anti-Semitism and for doing nothing to interfere with these insults to a guest of the city.—A. L.]

that inspiration and, without the least regard to historical fact, supply legend and story to the heart's content. There is, for instance, the story in the *Arabian Nights* where poor Abu-Hassân enjoys all the delights of a sovereign one day and is beaten as a lunatic the next.[1] A commonplace in the Greek novels was the plot designed to play on just that sentiment of contrast, and it served Boccaccio for the tales of his fifth day, which dealt with "fortunate outcomes for this lover or that after some cruel and unhappy mischance."

Reviewing Reinach's data, Father Lagrange saw clearly[2] that the Sacaea and other festivals of the kind may have had common origins, but do not stand in any direct relationship that would make one derive from the other either by imitation or otherwise.

739. So far it is a question of mere imagination. But human beings like to translate their fictions into reality so far as is possible and be it only under vain semblances—whence the development of various theatrical spectacles, invariably harmless in our time, though in ancient Rome they inflicted real sufferings on their actors and shed blood. In such things the human hankering for contrasts, which underlay the sanguinary spectacles both of Rome and Mexico, are caught as it were in the act of transforming themselves into realities.[1]

740. All these stories, mock facts, facts, have a nucleus in com-

738 [1] Burton, "The Sleeper and the Waker" in *Supplemental Nights,* Vol. I, pp. 1-35.

738 [2] *Quelques remarques sur l'Orpheus de M. Salomon Reinach,* pp. 39-52 (Martindale, pp. 30-32).

739 [1] Friedländer, *Sittengeschichte Roms,* Vol. II, pp. 386-87 (English, Vol. II, pp. 73-74), discusses theatrical spectacles in the Roman arena in which condemned criminals figured: "They were specially trained and rehearsed for their parts, in which they suffered torture and death not in play but very much in reality. They appeared in the arena clad in sumptuous gold-embroidered tunics . . . but suddenly the magnificent raiment would burst, like the robes of Medea, into violent flames that roasted the unhappy victims to death amid untold sufferings. . . . Christian men were obliged to submit to martyrdom clad as priests of Saturn, Christian women as priestesses of Ceres. Scarcely a form of torture or execution shiveringly alluded to in history or literature but was called upon for the amusement of the throngs at such spectacles. . . . As a rule executions took place in Rome in the early morning, and we know from Philo that that was the case in Alexandria." See further Martial, Lucian's *Ass* (*Lucis*), and *Metamorphoses,* X, of Apuleius.

mon.[1] But in addition to the common trait they have other characteristics that differentiate them from one another and make them susceptible of a variety of classifications, according to the criterion we select.

741. There might be, first, the criterion of reality, and in that case pure fictions, such as Boccaccio's tales, might go into a group *a.* Another group, *b,* would comprise theatrical representations of imaginary episodes—tragedies and dramas where the action is not in earnest, the Alexandrian custom reported by Philo, the French All Fools' Day, and the like. A group *c* would comprise representations that have an element of reality, the action being in earnest—on the one hand, such representations as the Roman Saturnalia, on the other, the bloody spectacles of the Roman circus. Finally would come a group *d,* where the reality is thorough-going, the sentiment of contrast supplying the forms only—and here the rites of Marseilles and Mexico.

The criterion might well be different—the extent, for instance, to which the contrast is carried. Along that line in a group, *1,* the contrast would halt at ascribing to persons or things characteristics that are in strident conflict with reality: the Alexandrian celebration, All Fools' Day, the countless stories where the fool is represented as a wit (or *vice versa*), and so on (§§ 668[1], 737[2]). In another group, *2,* the contrast is carried to an extreme: a state of felicity is followed by the greatest misfortune, or *vice versa.* The Greek tragedies present notable features belonging in this category. It is the power of this sentiment of contrasts, more than anything else, that gives the Greek plays their quality of sublime awe. In the same group we would also place the customs of Marseilles and Mexico. At bottom, the sentiments of contrast involved in the case of the powerful and glorious Agamemnon falling under the ax of Clytemnestra and the case of a youth who enjoys all the delights of life for a full year and is then led to slaughter, are not essentially different. Other criteria might be

740 [1] They constitute another illustration of a process that we met with above and which our next chapter will show to be general. There again we shall encounter the nucleus mentioned here (§§ 913 f.).

chosen, and they would yield different classifications, always from the standpoint of sentiments or non-logical conduct.

Considering these same materials from the standpoint of logical actions or of experimental reality, we should be carried into a quite different field. Then situations that belong to the same category from the standpoint of non-logical conduct would have to be distinguished. The tragedy of Agamemnon, for instance, and the Mexican sacrifice would belong to different classes.

742. Concrete situations may present combinations of these various types, along with other sentiments, other logical inferences, rhetorical ornaments, and so on.[1]

743. It is apparent, meantime, and it will be more so as we proceed (§§ 746-63), that little or nothing is to be inferred from resemblances between certain facts as regards their being imitations the one of the other or their originating one in the other by some other similar process of direct transformation. Nor are such resemblances to be pronounced artificial or imaginary. They may very well be real, the single sentiment underlying them finding different expressions in them.

744. Lagrange[1] is therefore right in rejecting the argument by which Reinach would prove (*Orpheus,* Chap. VIII, § 28) that the account of Christ's Passion in the Gospels is a mere reproduction of a pagan legend or rite. Reinach gives a number of examples of unfortunates who are first showered with pleasures and honours and then tormented. One of them, the Alexandria incident reported by Philo, has to be eliminated as not conforming to the groups *c* and *d* (§ 741) on which Reinach would rely to prove that the story of the Passion of Jesus is a myth devised in imitation of pre-existing festivals. The remaining examples prove very little. In fact they merely prove that the Passion of Jesus manifests the sentiment of contrast that figures in numberless other cases (§§ 913 f.).

If Reinach's reasoning were sound, why should the story of the

742 [1] For such composite types see Chapters VI and VII. We are not interested in them here, where we are merely illustrating our contention that many different branches may radiate from the trunk of a single sentiment.

744 [1] *Quelques remarques,* pp. 28-47 (Martindale, pp. 29-34).

Passion of Jesus be the only one copied from other narratives, and why should not some of these be copies of others still? If, furthermore, all episodes in which the sentiment of contrast figuring in the Sacaea or in other similar ceremonies appears are to be considered mythical, little indeed that is real would be left in the greater part of history. I am not in the least presuming here to solve the question as to the historical verity of all these facts. I am merely saying that the resemblances between them show nothing that can serve to prove some of them false and others true.[2]

745. Many other examples of similar institutions that are not imitations of one another might be mentioned. Herodotus alludes to an Egyptian lantern festival that parallels a festival of the Chinese, and which may also be regarded as a counterpart to the celebration in

744 [2] Lagrange makes the following points: 1. The Karabas episode must not be confused with the Sacaea: "When the young king, Agrippa I . . . called at Alexandria, the people of that town decided to make fun of him. . . . They made a prisoner of a poor half-wit named Karabas—not being a convert, Philo could not have mistaken the name. . . . The unlucky idiot was dragged to the Gymnasium and made to stand in a conspicuous place. . . . He was clothed in royal robes, 'after the manner of actors on a stage,' and a number of young men appointed themselves his body-guard. . . . The mobs began acclaiming him as Marin, which, in Syriac, means 'master,' to make it clear that they were having their fun with Agrippa. It was, evidently, a piece of buffoonery failing in the respect due to a human unfortunate, but without flogging, without shedding of blood. [The incident, as recounted by Philo in the *Flaccus,* seems in fact irrelevant to the argument Reinach tries to build up.] All the same, it will be said, the affair is very like the body-guard scene at Jerusalem. Of course it is! That is why it has been going the rounds of the commentaries ever since Grotius called attention to it in 1641! [Grotius' note is reprinted in *Annotationes in Evangelium secundum Matthaeum* (Matt. 27: 28), in his *Opera theologica,* Vol. II-1, p. 269.—A. L.]. Nothing, in fact, could better serve to place the conduct of Pilate's soldiers in its proper historical setting. The idea, in both cases, was to ridicule the Jews and the aspirations of a Jew to the crown. [In other words, two branches from one same trunk, as in our Figure 14.] At Alexandria Agrippa is abused, so to speak, only in effigy, in the person of Karabas, said to be Barabbas. At Jerusalem a pretender to the throne is handed over to the soldiers at a time when such pretence is a capital offence; he is condemned in advance. It is all in fun at Alexandria. At Jerusalem the jest ends in blood." The Sacaea, on the other hand, does serve Reinach's purposes. Says Father Lagrange: "The festival is known to us through Berosus (Athenaeus, *Deipnosophistae* (*Banquet of Scholars*), XIV, 44). It lasted five days in an atmosphere of carnival. Masters were obedient to slaves. An individual robed as a king was paraded about in solemn pomp. Though Berosus is chary of details, he chances, interestingly, to mention the name given to the mock king: that Barabbas was called Zoganes! . . . At a later date, Strabo, *Geographica,* XI, 8, 4-5 (Jones, Vol. V, pp. 261-65), repre-

Florence known as the *rifocolone* (Festival of Jack-o'-Lanterns). There is no question of any imitation in these cases.[1]

746. The Vestal Virgins in Rome are in all respects similar to the Virgins of the Sun in Peru. In Rome the Vestals were chosen by the Pontifex Maximus. In Peru that function belonged to a woman who was dean of the virgins. Both in Rome and in Peru the Virgins chosen kept a sacred fire burning and were sworn to the strictest chastity. If they broke their oath, they were buried alive. Of course, people who explain everything by logic have long known and still know the reasons for that particular kind of punishment, as well as the explanations of all the other details in the two parallel institutions!

747. In the first place, why virgins? Several explanations are available, and we may choose among them at our pleasure. Dionysius of Halicarnassus relates that Numa erected a temple to Vesta and entrusted the cult to virgins in accord with Latin custom. "There are," he says, *Antiquitates Romanae,* II, 66 (Spelman, Vol. I, p. 343), "doubts as to what is guarded in the temple and why its custody is

sents the Sacaean festival as intimately associated with the worship of the Persian goddess Anaitis." As Father Lagrange points out, this may be the festival which Diogenes, according to Dio Chrysostom, *De regno,* IV, 66-67, described to Alexander: " 'The Persians take a condemned criminal and seat him on the royal throne in royal regalia. He is allowed to order everyone about, drink, have a good time, have his way at his leisure with the royal concubines. No one restrains him from doing anything he pleases. Then he is stripped, flogged, and hanged.' Dio's text was referred to in a marginal note to Wetztein's Gospels in 1752. No one exaggerated the significance of the parallel at that time. What recently brought it to life was the publication by M. Cumont of the *Acta* of St. Dasius. In this case, a Christian soldier refused to play the part of king in the Saturnalia, and was obliged on that account to suffer martyrdom. Now the mock king impersonated Saturn, and if, over a space of thirty days, he was free to indulge any whim, he was expected to sacrifice himself on the altar of the god on the day of the festival."

745 [1] Says Herodotus, *Historiae,* II, 62: "When the people assemble in the city of Sais to offer sacrifices on a certain night, they all light lamps in the open air around their houses. The lamps are little vases full of salt and oil, with a floating wick that burns all night. This celebration they call the Feast of the Lighted Lamps." Larcher comments on the passage, Vol. II, p. 297: "This festival is very like a lantern festival that has been customary in China from time immemorial. It tends to corroborate the view of M. de Guignes, who was one of the first to suspect that China was just an Egyptian colony." One of the many mistaken notions based on the principle that similar things must have common origins!

entrusted to virgins. Some say there is nothing there save the fire which everyone can see and that care of it is entrusted to virgins rather than to men by way of similitude, fire being undefiled even as the virgin is uncorrupted, and because to the most chaste of the divinities the purest of mortal things is pleasing." Ovid poses the question: "Why does the goddess have virgins as the ministers of her cult?" And he answers, because Vesta is a virgin: "Is it strange that a virgin should delight in virgin ministers and insist that the ceremonies of her cult be performed by chaste hands? Nor shalt thou see in Vesta aught but a living flame, and ne'er hast thou seen bodies born of flame! Seemly is it therefore that she who neither receiveth nor giveth forth any seed, should be a virgin and have virgin associates." [1] Cicero is much more practical: [2] "Let Vesta's cult be administered by virgins to the end that watch may be more readily kept of the fire, and that women may perceive how much chastity their nature can bear." [3] Plutarch has explanations in surfeit. In *Numa,* 9, 5 (Perrin, Vol. I, p. 339), he relates that that king assigned the everlasting flame to the care of the Vestals "either be-

747 [1] *Fasti,* VI, vv. 283-294. The Latin reads:

"Quid mirum, virgo si virgine laeta ministra
admittit castas ad sua sacra manus?
nec tu aliud Vestam quam vivam intellige flammam,
nataque de flamma corpora nulla vides.
iure igitur virgo est, quae semina nulla remittit
nec capit et comites virginitatis habet."

747 [2] *De legibus,* II, 12, 29.

747 [3] [Pareto's rendering is somewhat free. Cicero's meaning seems to be: "that women may know through them that strict chastity is compatible with (*pati*) female nature."—A. L.] The passage reads, in Latin: *"Virgines praesint ut advigiletur facilius ad custodiam ignis et sentiant mulieres in natura feminarum omnem castitatem pati."* There is a variant: *peti* for *pati.* If one reads *peti,* the meaning would be that women ought to be chaste because chastity is pleasing to the gods. Duruy, *Histoire des Romains,* Vol. I, p. 103 (Mahaffy, Vol. I, p. 107), seems to incline to that view: "The religious idea which had originally determined the conditions imposed upon the priestesses had, as a consequence, been supplemented with a moral idea. That undying flame symbolized the very life of the Roman People. Virgins only could keep it alive! The institution of the College of Vestals was therefore an instinctive glorification of chastity, and in times of deep faith the belief must have had a good influence on morals." Written in that fashion, history becomes a mere collection of moralizing fairy-tales for the edification of children.

cause he thought a pure and uncorrupted substance such as fire should be entrusted to persons who were chaste and pure, or because he judged the sterility and barrenness of fire consonant with virginity." Then again, in *Camillus,* 20, 4-5 (Perrin, Vol. II, p. 143), we get a different story. According to some, says Plutarch, Numa instituted the cult of fire because fire is the principle of all things and an image of the eternal power that governs the all. According to others, the Romans, like the Greeks, kept fire burning before sacred objects because of its purity.

748. But the fact that the Vestals were virgins is far from being an isolated case, and all such logical explanations fall of their own weight. A current of sentiment—not of logic—establishing a relation between sexual purity and the service of gods (or of God) makes itself felt from ancient times all the way down to our own. The Pythia had to be a virgin. Of course there is no dearth of logical explanations of the fact—when have they ever been wanting? Indeed, for any single case we always find several, the one better than the other. "It is said," writes Diodorus Siculus, *Bibliotheca historica,* XVI, 26, 6 (Booth, Vol. II, p. 101), "that the prophetesses of old were virgins because they were undefiled and because of their resemblance to Artemis [who was a virgin] and because they were most likely to keep the secrets of the oracle." But eventually a Thessalian, Echecrates by name, abducted and violated a Pythia of whom he had fallen enamoured; whereupon the people of Delphi made a law that the prophetess should be not a virgin but a woman over fifty. Later on, it seems, the office was restored to young women. That at least is what may be gathered from a passage in Plutarch.[1]

749. In the days of Pausanias a temple to the Artemis Hymnia

748 [1] Plutarch, *De Pythiae oraculis,* 22 (Goodwin, Vol. III, pp. 93-94): "So the Pythia who now serves the god must come of a good and law-abiding family and have herself lived above reproach." He goes on to say that the young woman described meets the ideal of Xenophon, who thought that a bride should go to her husband having seen and heard as little as possible of life. That may explain why Bouché-Leclerc, *Histoire de la divination dans l'antiquité,* Vol. III. p. 93, writes: "The god, who was thenceforth to be her only husband, wanted her beautiful and chaste. Any pollution would have made her unworthy of the mystic union that Christian propagandists took too much delight in ridiculing with their indecent allusions." A new logical explanation, for the mere asking!

still stood on the confines of the land of the Orchomeni, near Mantineia. The priestess at one time had been a young virgin, and a certain Aristocrates, historically a somewhat hazy figure, violated her, though she had taken refuge in the temple under protection of Artemis. The Arcadians put her to death by stoning and then decreed by law that "instead of a virgin, the priestess of Artemis should be a woman who had had commerce with men." [1]

750. Another temple to the Artemis Hymnia had, says Pausanias (*loc. cit.,* 13, 1), a priest and a priestess who were obligated to live in chastity, and a similar duty devolved upon the Essenes who presided at the suppers in the temple of Artemis at Ephesus. Their term of service, however, was only a year. In the temple to the Earth, near the river Crathis (*Ibid.,* VII, *Achaia,* 25, 12-13), the priestess could have lived with one man before assuming the post, but was obligated to remain chaste thereafter.

751. In other cases (*Ibid.,* VII, *Achaia,* 19, 1, and II, *Corinth,* 33, 2), priestesses could serve in the temple so long as they were maids, but had to resign on marriage. The Tegeans were more cautious still, giving Artemis a priestess who retained office only until she reached the age of puberty (*Ibid.,* VIII, *Arcadia,* 47, 3). At Athens the wife of the archon-king had to be a virgin at the time of her marriage.[1] Familiar the fact that among the Israelites the priest had to marry a virgin.[2]

752. Virginity was not the only quality required in a Vestal. She could not be a deaf-mute, nor have any physical defects. At the time when she was "taken" by the pontifex to serve as a Vestal, her parents had to be still living—or, as the Latins said, she had to be *matrima* and *patrima.* She had to come of a free-born and reputable

749 [1] Pausanias, *Periegesis,* VIII, *Arcadia,* 5, 12: *Αντὶ γὰρ παρθένου διδόασι τῇ Αρτέμιδι ἱέρειαν γυναῖκα ὁμιλίας ἀνδρῶν ἀποχρώντως ἐχουσαν.* Strange logic! As though a grown woman could not be misled as readily as a virgin! [Pareto seems to overlook *ἀποχρώντως.* Jones translates: "A woman who had had enough of intercourse with men," *i.e.,* too old for intercourse with men.—A. L.]

751 [1] Demosthenes, *In Neaeram,* 1370 (Auger, Vol. X, pp. 408-09): . . . *Τὴν δὲ γυναῖκα αὐτοῦ νόμον ἔθεντο ἀστὴν εἶναι, καὶ μὴ ἐπιμεμιγμένην ἑτέρῳ ἀνδρὶ ἀλλὰ παρθένον γαμεῖν.*

751 [2] Lev. 21: 13.

family.[1] Just so victims offered to the gods had to be perfect; and a feeling that persons and objects in the service of gods, or offered to them, have to be perfect persists all the way along from antiquity down to our own days.[2]

753. It is obvious that the causes of such things are not to be

752 [1] The conditions are stated by Aulus Gellius, *Noctes Atticae,* I, 12, 1-6, following Labeo: "Those who have written on the 'taking' of vestal virgins—Antistius Labeo most authoritative of them all—say that it was unlawful to 'take' a girl less than six years old or more than ten; that her father and mother had still to be living (*patrima et matrima*); that she could not have any defects of speech or hearing or be marked by any other bodily defect; that she could not be emancipated [from paternal control, through crime] nor daughter of a man who had been, even if she were under the authority of her grandfather (*in avi potestate*) with her father still living; that she was ineligible if either or both of her parents had ever served as slaves or engaged in any degrading occupation (*negotiis sordidis*)."

752 [2] Well known the fact that a Catholic priest is required to live in chastity and be free of any considerable physical defects. Lancelotto, *Institutiones iuris canonici, lib.* I, *tit.* 25 (p. 100): "A man who has married twice (*bigamus*) or has married a widow, a divorced woman (*eiectam*), or a prostitute, cannot be ordained." *Ibid.,* p. 102: "A man defective in body, unless the injury be of no importance, cannot be ordained." [And the heading reads: *Modica laesio non impedit ordinandum.*] *Decretum Gratiani, pars* I, *distinctio* 33, *canon* 2 (Friedberg, Vol. I, p. 123): "A man who, after baptism, has been the husband of two wives cannot be ordained a cleric, nor a man who has had but one woman, but as a concubine not as a wife; nor a man who has taken in marriage a widow, or a divorced wife, or a prostitute; nor a man who has mutilated himself in any part of his body in disdain [of the flesh] or at the promptings of a fear, justified or unjustified [of carnal sin]; nor a man proved to have received usury, or known to have played on the stage; nor a man who shall have repented of some mortal crime by public penance; nor a man who has at any time been insane or obsessed of devils (*afflictione diaboli vexatus*), nor a man who out of vainglory (*ambitionem*) shall have taken money in imitation of Simon Magus." *Ibid., distinctio* 32, *canon* 12: "No one shall be allowed access to a sacred order unless he be virgin and of proved chastity and down to the time of his subdiaconate shall have had but one wife herself a virgin" [The requirement made of the archon-king in Athens!]: Rabbinovicz, *Législation criminelle du Talmud,* p. 190: "Mishnah. Subject to the penalty of flogging are . . . a high priest who marries a widow (Lev. 21: 14); a priest who marries a divorced woman or a woman who 'has loosed the shoe' [*i.e.,* a widow refused in remarriage by her deceased husband's brother], Deut. 25: 9." *Decretum Gratiani, pars* I, *distinctio* 55, *canones* 4-5 (Friedberg, Vol. I, p. 216): "If anyone has mutilated himself, *id est, si quis amputavit sibi virilia,* he may not be a cleric, for he is a murderer of himself and an enemy of God's profession (that is, the priesthood—*Dei conditionis inimicus*). . . . If a man already a priest shall mutilate himself, let him be altogether damned, for he is a murderer of himself. . . . Those who mutilate themselves not knowing how otherwise to combat carnal temptation are not eligible to the priesthood." The priests of Cybele, on the other hand, were eunuchs.

sought in logical explanations of this kind, and that we shall find them only as we turn our attention to certain sentiments which account both for the things and for the explanations given of them.

754. An identical punishment was inflicted upon the Roman Vestals and the Virgins of the Sun in Peru if they broke their vows of chastity. In Rome, says Marquardt,[1] the guilty Vestal was carried "on a bier to the Campus Sceleratus near the Porta Collina. There she was flogged and then buried alive. The Romans dared not kill her, for they considered it *nefas* to cause a person consecrated to the gods to die a violent death." If the explanation is not to your liking, here is another. The dead are cremated. Would it not be inappropriate to burn a woman who has not faithfully tended her fire? Or will you have still another? The guilty woman was handed over to the gods, and her punishment left to them.[2]

755. If your appetite is still not sated, we will look around for something else. Réville has produced the following, which may serve both for Rome and Peru:[1] "Is it not astonishing that the punishment held in store for violators of the vow of chastity was exactly the same as the one inflicted on unchaste Vestals in Rome? They were buried alive![2] The parallel arises in the fact that in both countries the culprit was held to be hateful, after such a crime, to the divinities of the Day, of Light. She had provoked their wrath. The sight of a being worthy of their resentment could no longer be inflicted upon them. She could only be dedicated to the nether

754 [1] *Römische Staatsverwaltung: Sacralwesen,* p. 328.

754 [2] For both explanations see Plutarch, *Quaestiones Romanae,* 96 (Goodwin, Vol. II, p. 254).

755 [1] *Les religions du Méxique,* p. 367.

755 [2] Festus, *De verborum significatione,* XIV, *s.v. Probrum virginis Vestalis* (London, Vol. VI, p. 644): "Inchastity in a Vestal Virgin was punished capitally, and the man who had led her astray was flogged to death. According to M. Cato, in his oration entitled *De auguribus,* the law was posted in the atrium of the temple to Liberty, the exact text being lost along with that of many other laws when that temple was burned. Cato adds that when Vestal Virgins were convicted of profaning their priesthood by inchastity they were buried alive as having defiled the sanctity of Mother Vesta. Though criminals, they were not buried outside the city, but in a field near the Porta Collina, called the Field of Impurity (*Campus Sceleratus*)."

gods of Darkness, of Death, whose handmaiden she had elected to become."

756. The Romans themselves had different reasons for punishing Vestals. Their chief aim, it seems, was to escape impending misfortunes. "There are several signs," says Dionysius of Halicarnassus, "when divine service has not been in due form, chief among them the going out of Vesta, a thing that the Romans fear more than any catastrophe, for whatever the cause, they believe that it presages disaster for the City." [1]

757. There is a story [1]—whether it be history or legend matters little—that in Rome, about the year 481 B.C., a series of prodigies made it clear that the gods were angry. Investigation revealed that the Vestal Opimia was no longer a virgin. She was buried alive. Thereupon the sacrifices became favourable again, and the wrath of the gods was evidently appeased. Eleven years later, in 470 B.C.—still a very hazy period historically—a pestilence broke out among women in Rome causing many deaths.[2] No one knew which way to turn till a slave informed the high-priests that the Vestal Urbinia was no longer a virgin and that she was offering sacrifices for the City with impure hands. She was buried alive. One of her two lovers killed himself, the other was slain. "The pestilence among the women and the frequent deaths ceased as soon as these things were done." Another legend supplies an etymology for the name of the Campus Sceleratus. In the year 334 B.C., says Livy, *Ab urbe condita,* VIII, 15, 7-8, "the Vestal Minucia was reported to the priests by a slave informer. She had first fallen under suspicion by being more fashionably dressed than was seemly in the performance of her duties (*propter mundiorem iusto cultum*). She was at once ordered to abstain from the rites and to hold her slaves in her own possession [that they might be tortured to extract evidence against her]. After a trial she was buried alive in the Field of Impurity (*Campus Sceleratus*) next to the paved road at the Porta Collina. That

756 [1] *Antiquitates romanae,* II, 67 (Spelman, Vol. I, p. 348).
757 [1] *Ibid.,* VIII, 89 (Spelman, Vol. III, pp. 432-34).
757 [2] *Ibid.,* IX, 40 (Spelman, Vol. IV, pp. 74-75).

name was given to the place, I believe, because of her crime."

758. In times historical, and to wit, just after the defeat at Cannae (216 B.C), direful prodigies appeared. The Romans were terrified by the fact that within a year's time [1] "two Vestals, Opimia and Floronia, had been convicted of violating their vows. One of them had been buried alive, according to custom, near the Porta Collina, the other had committed suicide." Their lovers were flogged to death. But all that was not enough to dispel the terror. So the Sibylline books were opened, and they were found to prescribe extraordinary sacrifices. "Two Gauls, a man and a woman, and two Greeks, a man and a woman, were buried alive in the Forum Boarium in a place marked off by stones, where other human sacrifices had been performed. The which is unworthy of the Roman religion (or Foster: "which was rather a Greek than a Roman rite")."

759. It cannot be said that human beings, Greeks and Gauls, were buried alive in this case because they were considered objects of loathing to the divinities of Day or of Light. The character of the non-logical conduct expressed in those sacrifices and in the punishment of the Vestals is evident enough. It was the instinct of self-preservation, insisting on matching extreme misfortunes with extreme remedies (§§ 929 f.). It was the same instinct that impels people to make human sacrifices in order to ensure success in rites of magic (§ 931).[1]

760. The Vestal was buried in a little vault with a few provisions: a little bread, some water, milk, and oil.[1] That manner of death was not peculiar to guilty Vestals. There is an allusion to something similar in a tragedy of Sophocles.[2] According to certain traditions

758 [1] Livy, *Ibid.*, XXII, 57, 2-6.

759 [1] [A cross-reference to §§ 1092-93 would have been in point here also.—A. L.]

760 [1] Plutarch, *Numa*, 10, 5 (Perrin, Vol. I, p. 343). Plutarch explains the procedure on the ground that it would be sacrilegious to allow persons duly consecrated to the most sacred ceremonies to perish of hunger.

760 [2] *Antigone*, vv. 773-80 (Storr, Vol. I, pp. 374-75). Creon says of Antigone: "I shall lead her to a deserted place without trace of human being, and there will I shut her up alive in a cave, with enough food to spare me a sacrilege and the city a crime." The scholiast notes that that was an ancient custom, "that she might not seem to be killed by starvation, for that would be impious."

condemned Vestals were not always executed in the same way. The law prescribing burial alive is attributed by Zonaras to Tarquinius Priscus.[3]

761. Under the Empire the old laws were not always observed. Suetonius says of Domitian, *Domitianus,* 8, 4, that "he curbed immorality among the Vestal Virgins, which had been ignored by his father and brother, with a variety of severe penalties, at first with death, then with punishments according to the ancient custom.[1] He permitted the Oculata sisters and another Vestal, Varronilla, to choose their mode of death, sending their accomplices into exile. The Vestal dean, Cornelia, who had been acquitted at previous trials, was again indicted and found guilty. He caused her to be buried alive and her accomplices to be flogged to death, with the exception of one, a former praetor, against whom proofs seemed insufficient. He was exiled. Caracalla, too, had Vestals buried alive.[2]

762. By a fortuitous coincidence, the Virgins of the Sun in Peru were allowed to have commerce with the Incas, who were sons of the Sun; while in Rome, the Emperor Elagabalus, himself a priest of the Sun, went so far as to marry a Vestal and say: "I have done this that divine children may be born of me, a high priest, and of her, a supreme Vestal."[1]

760 [3] *Epitome historiarum,* III, 8 (Migne, Vol. 134, p. 566). Relating how Tarquinius caused an unchaste Vestal to be buried alive with a cot, a lantern, and a table with food, Zonaras adds: "From that time on it became the rule to punish in that manner such of the priestesses as failed to keep their vows."

761 [1] See also Dio Cassius, *Historia Romana,* LXVII, 3 (he has a slightly different slant on Domitian's crusade against the Vestals); and the younger Pliny, *Epistulae,* IV, 11: "He had set his heart on having Cornelia, the dean of the Vestals, buried alive, as though he thought that his reign would be glorified by an example of that sort."

761 [2] Dio Cassius, *Ibid.,* LXVIII, 16. And *cf.* Herodian, *Historiae,* IV, 6: "He had Vestals buried alive, on charges that they had not preserved their chastity." [Herodian, that is, doubting their guilt: *ὡς μὴ φυλαττούσας τὴν παρθενίαν*—A. L.]

762 [1] Dio Cassius, *Ibid.,* LXXX, 11; Herodian, *Historiae,* V, 4. He defended his conduct in a letter to the Senate on the grounds that "it was but a human sinne, that he was enchanted with the magicke of her beauty, and that it was no incongruitie for a priest to marry a priestesse, which could only be a seemlie and sacred thing." Réville, *Les religions du Méxique,* p. 366: "The Virgins of the Sun were cloistered in absolute seclusion, cut off from any connexions with the rest of society, especially as regards men. Only the Inca and his principal wife, the Coya,

763. Another coincidence is remarkable indeed. In Peru the Virgins of the Sun made certain loaves of bread of a very pure flour, which were offered to the Incas during a certain festival of the Sun. In Rome the Vestal Virgins prepared a dough of flour called *mola salsa* to be used for offerings to the goddess Vesta.[1] All these examples serve to show that, as we saw in § 743, resemblances between certain rites in no way prove that the one is derived directly from the other.

764. B-γ: *Myths and the like are entirely non-real.* In this group we find the numerous and important theories of allegory, including the theories of the solar myth and others of the same brand. All of them, widely current in the past, still have their adherents. They are dear to ingenious, subtle, imaginative minds, eager for unexpected discoveries. They represent, further, a salutory transition stage between blind faith and scientific scepticism; what can be no longer

were at liberty to enter the convent. These visits were not altogether disinterested, for the Inca ordinarily recruited his harem from the girls there. A son of the Sun and able to marry his sisters, he was merely choosing within his family. All the same, the young virgins were held to the strictest chastity and took oath never to depart from it. But the vow came down to a promise that they would belong to no husband save the Sun or 'him to whom the Sun should give them.' "

763 [1] Garcilaso de la Vega, *Comentarios reales que tratan del origen de los Incas,* Vol. II, pp. 182-84: "Of the four feasts of the Sun celebrated by the king-Incas, the chief one was the Raymi, coming in the month of June. . . . The priest-Incas, who were to perform the sacrifices, prepared the sheep and lambs that were to be used, the day before, as well as the food and beverages that were to be proffered to the Sun. . . . The 'wives' of the Sun spent that same night in grinding the flour for a dough called *cancu,* which they moulded into little loaves of bread about the size of an apple. . . . The chosen Virgins were the only ones allowed to grind the flour for the loaves, especially for those which the Inca and the princes of the blood were to eat. They also prepared all the other foods; for the notion was that on that day the Sun was host to his children." Servius, *In Vergilii Bucolicon,* VIII, v. 82 (Thilo-Hagen, Vol. III, p. 106): *"Sparge molam:* 'Flour and salt.' The term is derived from religion. 'Sacred flour': *mola casta, mola salsa* (for they both mean the same), is made in the following manner: Taking turns each day between the nones of May and the day before the ides [May 7-14: the same date, virtually, as that of the Peruvian ceremony, for they were both spring festivals.], the three eldest Vestals filled harvest baskets with spelt, and themselves roasted, crushed, and ground the grain, making a flour of it. Three times a year, at the Lupercalia, the feast of Vesta, and the ides of September, the Virgins made dough of the flour, adding cooking-salt and rock-salt."

defended has to be dropped, but there is an effort to salvage as much as possible of the old myths.

765. However, what often happens is that little or nothing really is saved. Past experience shows that little is gained by trying to logicalize an outworn belief. Often, in fact, that is the way to hasten its ruin. Abstract, ingenious, finely drawn reasonings have no great influence as regards fostering the non-logical sentiments that make up the substance of beliefs.[1]

766. It might be well, at this point, to recall in the particular the remarks as to the purpose of this immediate research that we made in general terms on the diagram in §§ 635 f. Given a piece of writing in which myths, allegories, and the like, are assumed to play a part more or less extensive, our main concern is to determine whether and in what manner we can get back from the text to the writer's ideas or to the facts that he meant to describe.

767. Grote has passed an excellent judgment on allegorical and historical interpretations of ancient Greek myths. Says he:[1] "The doctrine, supposed to have been originally symbolized and subsequently overclouded, in the Greek mythes, was in reality first intruded into them by the unconscious fancies of later interpreters. It was one of the various roads which instructed men took to escape from the literal admission of the ancient mythes, and to arrive at some new form of belief, more consonant with their ideas of what

765 [1] Sorel remarks in *"Quelques prétentions juives,"* pp. 292-93: "Catholicism has very appreciably strengthened its situation in the course of the nineteenth century by pursuing a policy quite different from the one advised by men of talent: the Church has stressed its theology, multiplied its monastic institutions, and attached to miracles an importance they had not enjoyed since the Middle Ages. . . . Bernard Lazare was terribly mistaken when he wrote, *L'antisémitisme,* pp. 359-60 [English, p. 327]: 'Christianity is disappearing like the Jewish religion, like all the religions that we can see very gradually perishing. It is succumbing to the blows of reason and science. . . . We are daily losing the feeling for the absurd, the need of it, and consequently the need of religion, especially the practical need; and those who still believe in the Divinity have ceased to believe in the necessity, and above all in the efficacy, of acts of worship.' Bernard Lazare was merely paraphrasing Renan in all that, without going into the question personally. In any event, things have changed greatly since 1894." The assertion quoted from Lazare is absolutely and completely at variance with the facts.

767 [1] *History of Greece,* Vol. I, pp. 439-40.

the attributes and character of the gods ought to be. . . . The same conflicting sentiments which led the philosophers to decompose the divine mythes into allegory impelled the historians to melt down the heroic mythes into something like continuous political history, with a long series of chronology calculated upon the heroic pedigrees. The one process as well as the other was interpretative guesswork, proceeding upon unauthorised assumptions, and without any verifying test or evidence: while it frittered away the characteristic beauty of the mythe into something essentially anti-mythical, it sought to arrive both at history and philosophy by impracticable roads."

768. A commentary on the Homeric poems written by Heraclides of Pontus [or Heraclitus of Alexandria], *Allegoriae Homericae,* may be mentioned as typical of the allegorical interpretation. The critic's purpose is to make Homer's stories rational, moral, and pious. So with reference to the passage in the *Iliad,* I, vv. 396-411, that speaks of an intention on the part of the gods to put Zeus in chains, Heraclides remarks, *cap.* 21, that "for those verses alone Homer would deserve to be banished not only from a republic of Plato but beyond the farthest pillars of Hercules and the inaccessible Ocean"; and he goes on, 22: "After all, there is only one way to excuse such impiety: we shall prove, namely, that the myth is allegorical." He therefore proceeds to explain in lengthy disquisitions, 24-25, that Zeus is the ether, Hera the atmosphere, Athena the Earth, Poseidon water, Thetis Providence. When Homer says that Thetis rescued Zeus when Hera, Poseidon, and Athena set out to put him in chains, he is representing a disturbance of the elements that is averted by Providence.

769. The *Odyssey,* V, v. 121, says that rosy-fingered Dawn abducted Orion. According to Heraclides [Heraclitus], *cap.* 68, that was Homer's way of saying "that a young man in the flower of his youth was carried off by Fate. Indeed it was a custom of the ancients when a man died not to move his body either at night or in the heat of the day, but at dawn, when the Sun's rays were not yet warm. So when a youth well born and distinguished for handsome physique died, his early-morning funeral was most happily called an

abduction by Dawn, as though he had not died but had been snatched away by an amorous yearning." Allegories of this kind have no sounder basis in fact than the interpretations of Palaephatus. Indeed it would serve just as well in this case to read that a queen by the name of Aurora misled a young man by the name of Orion.

770. There is no end to allegorical explanations of Homer's poems, and new ones have kept appearing every so often from ancient times down to our own. Eustathius already has a number, and eventually we get to a certain Hugon, who saw a prophecy of Christ's Passion in the Homeric poems; and to one Gerard Croese, who regarded them as an allegorical history of the Jews.[1]

771. In the same way and for the same reasons Virgil had his allegorical interpretations too. Comparetti notes that the works of Virgil were supposed to contain a prophecy of the coming of Christ: [1] "The most elaborate interpretation of the kind appears in an address delivered by the Emperor Constantine before a church assembly. . . . The translation of the eclogue [the fourth] into Greek verse as we read it today in the imperial lecture shows traces of the ancient plague of occultism. In not a few places it departs arbitrarily from the original, altering meanings with the obvious purpose of adapting things to the Christian interpretation propounded. The Emperor examines Virgil's composition in its various parts and finds hints of the advent of Christ in a number of particulars: the returning virgin is Mary; the new Heaven-sent progeny is Jesus; and the 'serpent which shall be no more' is the age-old Tempter of our forefathers." And that is not all.

772. Another fine specimen is Fulgentius. Says Comparetti farther along: "The *De continentia Virgiliana,* in which Fulgentius elucidates the content, or rather, the hidden content, of Virgil's poem is one of the strangest and most curious documents of the Latin Middle

770 [1] Hugon, *Vera historia Romana, seu origo Latii vel Italiae ac Romanae Urbis, e tenebris longae vetustatis in lucem producta,* Rome, 1655. *Ὁμήρος ἑβραίος, sive historia Hebraeorum ab Homero hebraicis nominibus ac sententiis conscripta in Odyssea et Iliade, exposita illustrataque studio ac opera Gerardi Croesi,* Dordrecht, 1704.

771 [1] *Virgilio nel medio evo,* Vol. I, pp. 134 f. (Benecke, p. 100).

Ages. . . . The writer makes haste to declare in a preamble that he is to confine himself to the *Aeneid* alone, since the *Bucolics* and the *Georgics* contain mystical significances so recondite that there is virtually no skill great enough to divine them fully. They constitute, at any rate, a burden too heavy for shoulders of his size, 'forasmuch as they would require too great knowledge, since the first meaning of the *Georgics* is wholly astrological, the second physionomical and medical, the third relative entirely to "haruspicinics" [art of divination].' "[1]

773. In the same way, and for the same reason, people have sought and found allegories in the Bible and in the Gospels. Immense the amount of work that has been done along this line by the Church Fathers and their successors, Catholic, Protestant, Modernist. Philo the Jew wrote *Allegories of the Sacred Laws,* which stand on a par with the allegories the ancients found in Homer and Virgil and those the Modernists have of late been discovering in the Gospels. Strange that these last should vaunt a mere reversion to antiquity as *modern*. That is something like discovering America in the twentieth century!

774. Says the Bible, Gen. 2:25: "And they were both naked, the man and his wife, and were not ashamed." Would you know what that means? Philo will enlighten you. It means that "the mind did not think and that the senses did not perceive, that the man was without thought, the woman without perception."[1] Clearer and more definite than that one could not be! Or would you know the

772 [1] *Ibid.,* pp. 144 f. (Benecke, p. 108). The opening verse of the *Aeneid, Arma virumque cano Troiae qui primus ab oris,* Fulgentius, *De Virgilliana continentia* (Müncker, Vol. II, p. 147), imagines Virgil as explaining as follows: "There is a threefold progress (*gradus trifarius*) in human life: first comes 'to have,' second, 'to manage what one has,' third, to 'beautify what one manages.' Those three steps you must regard as stowed away in that one verse of mine: *arma,* in other words, power, relates to corporal substance; *virum,* that is to say, wisdom, relates to intellectual substance; *primus,* that is, prince [*i.e.,* princely], relates to beautifying substance. Whence the following sequence: 'to have, to manage, to beautify.' So, under semblance of a tale, I have portrayed the whole lot of human kind: first nature, then learning, then happiness."

774 [1] *Sacrarum legum allegoriae,* II, 16 (Cohn, Vol. I, p. 103; Yonge, Vol. I, p. 96): *Οὔτε ὁ νοῦς ἐνόει, οὔτε ἡ αἴσθησις ᾔσθάνετο, ἀλλ' ἦν ὁ μὲν τοῦ νοεῖν ἔρημός τε καὶ γυμνὸς, ἡ δὲ τοῦ αἰσθάνεσθαι.*

meaning of the miracle of the water changed into wine, or of the blind man restored to sight, or of the man raised from the dead? This time the Rev. Father Loisy will tell you in terms as clear and definite as Philo's.[2] The change of the water to wine means the replacement of the Law by the Gospels. The blind man made to see and the man raised from the dead represent humanity called to the "true" light and the "true" life of the Incarnate Word. M. Loisy takes vigorously to task anyone not accepting such lucid interpretations out of hand. Says he: "The theologians of our day are so far removed from the ways of thinking of the Evangelist [John], and at the same time have so little sense of the possible and real in matters of history, that we must give up hope of making them understand that accounts such as the story of the miracle of Cana, the healing of a man congenitally blind, the raising of Lazarus from the dead—unintelligible, absurd, or ridiculous as matters of faith, unless they be regarded as bold tricks of a sleight-of-hand performer—are of easy and simple interpretation if we avail ourselves of the keys supplied by the Evangelist himself, and see in the miracle of the water changed to wine the Law replaced by the Gospel and in the blind man restored to sight and the man raised from the dead, humanity called to the true light and the true life by the Incarnate Word, who is Himself the Light and the Life." [3] Unfortunately that is the trouble with all allegorical interpretations of mythology. It is very difficult to make a choice, accepting this or that and rejecting the others.[4]

774 [2] *Simples réflexions sur l'encyclique Pascendi,* pp. 52-53.

774 [3] Further along, p. 55, M. Loisy complains that his meaning has been misrepresented by the Holy Office: "I say that John could call himself a witness to the Christ since he was the witness to His life in the Church. The Holy Congregation makes me say that John should not have offered himself as a witness to the Christ since he was only a witness for the Christian life. Under similar forms of expression the two ideas are different." To avoid such misunderstandings, M. Loisy should have expressed himself more clearly. "Pliny the younger is a witness to Trajan, Suetonius to a number of Emperors, John to Christ." From a historico-experimental point of view that really would seem to mean that Pliny knew Trajan, saw Trajan, Suetonius other emperors, John Christ. If one's meaning is something else, one should say so in unmistakeable terms.

774 [4] Another Modernist has tried his hand at allegorizing the wedding-feast at Cana: D'Alma: *La controverse du Quatrième évangile,* pp. 59-62: "Six stone jars

775. Are there allegories in the Gospel according to St. John? There may be—in fact, it is very probable that there are. But we have no means whatever of distinguishing the allegorical element from the historical element, and it is even possible that the writer of the Gospel did not distinguish them very clearly himself.[1] Nor is that all. Even assuming that we could determine for a certainty that a given story is allegorical, we are still nowhere as regards knowing exactly what allegory the writer had in mind. On that point the Apocalypse is evidence enough. It is certainly allegorical; but as for what the allegory is, people have been investigating for centuries and nothing certain has come of it.

776. M. Loisy has a strange way of understanding the significance of historical proofs. Says he:[1] "Remove from the Gospels the idea of the great Advent and the idea of the Christ-king, and I defy you to

stand on the floor according to the manner of purification among the Jews. They hold about two or three measures each. If one chooses to inquire further as to the meaning which the spiritual Gospel attaches to that symbol, the marriage feast at Cana has to be taken in connexion with the feast of which Jesus partook after he had gathered his first five apostles at the house of Levi-Matthew. There, answering a question of the Pharisees as to the difference between his rule of life and that of the disciples of John, he compares himself to the bridegroom who feasts with his friends and does not put his wine into old bottles (Mark 2: 22). Now the five disciples he has just assembled, and who make six if we count the bridegroom, are not leathern gourds but jars of stone, foundations of the Church. [If there had been six disciples the bridegroom would not have been counted, and the jars would have stayed at six. Had there been four disciples, there would still have been no difficulty: we count the bride as well as the groom and again get our six.] . . . Such, says the Evangelist, was the first of the miracles of Jesus. . . . It would have been strange indeed that Christianity should have had a grossly material miracle of that kind as its starting-point." With arguments of that sort one can prove anything one pleases.

775 [1] D'Alma agrees, *Op. cit.*, pp. 25, 19, that history is interwoven with allegory in the Gospel according to St. John: "His prologue complete, the Evangelist enters straightway upon the drama he has just outlined. There is a first encounter between darkness and light [John 1: 5: And the light shineth in darkness; and the darkness comprehended it not.] Not that John is the light: he was a witness [to the light, John 1: 8], a flaming, shining torch. He baptizes. From Jerusalem the Jews send him their official supervisors of religion—priests and Levites. Is that story to be taken literally? Or is it altogether allegorical? It may be both at once." D'Alma is right; but for that very reason it is futile to try as he does to sift the history from the allegory, and, one may add, from the fiction and the imagination.

776 [1] *Autour d'un petit livre*, p. 70.

prove the historical existence of the Saviour; for you will then have stripped His life and death of all their historical significance." So it would follow that it is the "idea" implied in a narrative which proves its historical veracity!

777. It is the ordinary confusion between subjective proofs and objective proofs (§ 1567). One has to make up one's mind: Either a story is a matter of faith, in which case objective proofs are superfluous, or it is a matter of history with an experimental substance, in which case subjective proofs, "ideas," beliefs, have no status as evidence. The same objection may be raised against neo-Christians, such as Piepenbring in his *Jésus historique,* who try their hardest to eliminate the supernatural and the miraculous from the Gospels. If the Gospels are to be taken as strictly historical texts, "Christian experience"—their accord, in other words, with the sentiments of this or that person—has no status as proof. The mistake these people make lies in their believing that their humanitarian inspirations have a greater objective force than mere faith in miracles.[1]

777 [1] Piepenbring bestows high praise on Loisy. He tries to conjecture what the primitive Gospels may have been and does not notice that in his own work, which is entirely hypothetical, he finds in them only what he chooses to put into them. So he is able to conclude, *Op. cit.,* p. 181: "If now we cast a glance in retrospect upon the ministry of Jesus, we are forced to recognize that in the sources of our Gospels miracles play a very insignificant rôle, coming down to a few cures worked by Jesus. Preaching was by far the important element in His ministry. The situation is quite different in the recent portions of the Gospels. An attentive comparison of them with their original sources proves that the miracles kept gradually increasing in evangelical history, becoming more and more extraordinary all along." What are the "sources" in question? Piepenbring himself confesses that they simmer down to the *Logia,* of which he says, p. 40: "The *Logia* have evidently come down to us in a disconnected state. A number of the texts are not strictly original but already bear the imprint of apostolic theology"; and then to a Proto-Mark, which no one has ever seen and of which many doubt the existence. Yet Piepenbring rears his whole edifice on those tottering foundations, p. 75: "Since it is not to be assumed that no other authentic element figures in our synoptic Gospels aside from the *Logia* and the Proto-Mark, they should be carefully scanned for such of those elements as are really there." People have tried to do just that with the *Iliad* and other legendary narratives, and to little or no purpose. There is no method for solving such riddles.

Among the prettiest transformations of a known text into an allegedly primitive text must be reckoned the feat of Bascoul in rewriting Sappho's ode. He asserts that the text we know is a parody—and so far, so good; but then with no other document than the text itself, he discovers the primitive text so parodied, and it

778. From the standpoint of objective reality, one cannot imagine what M. Loisy means when he says further along, p. 93: "This Christ [of the Gospel according to St. John] is undoubtedly not a metaphysical abstraction, for He is alive in the soul of the evangelist." Every metaphysical abstraction at all vivid is "alive" in the mind of the metaphysicist. Loisy would take the side of historical and scientific criticism as against the Roman Church; but then he is himself a theologian more metaphysical, more abstract, more abstruse, than the theologians of the Curia.[1]

779. In order to get at least something that is real into their allegories etymology has been called to the rescue, and etymological methods of interpretation keep turning up all the way down to our day. One of them, the system that leads to the solar myth, has enjoyed wide-spread acquiescence. As regards sociology, the intrinsic value of the method is of less significance than the fact of its wide acceptance, as indicating an influential mental state and the con-

proves to be something entirely different from the text we know! One can only hope that Bascoul will now go on and give us the "primitive *Iliad*," which will tell the true history of the Trojan War, and so bring to a triumphant conclusion the audacious emprise vainly essayed by Thucydides, Dio Chrysostom, and no end of other writers. Bascoul, *La chaste Saphos de Lesbos,* p. 30: The ode is not an erotic poem, but ". . . a description of the emotions caused by the rise of a poet-musician as a rival to Sappho and her school, and by his songs. Here history points to Stesichorus. [What a blessing to be able to guess what history is so easily!] As a great poet and a reformer of lyric poetry he must necessarily [When one knows what necessarily happens one also knows what happens.] have made a profound impression on Sappho, when she met him in Sicily, where she was in exile with her daughter. [What a pity we are not told the exact day and hour!] It was to rouse her daughter from her indifference that Sappho sang to her that masterpiece in the natural and sublime description of the emotions, which were provoked first by the appearance of the gods, then by inspiration, and finally by enthusiasm."

778 [1] The dispute today has become primarily political. It is a question not of historical criticism, but of attacking or defending the Roman Church. Reinach, *Orpheus,* Chap. VIII, § 20 (Simmonds, p. 223): "Collation of our Gospels, and the distinguishing of the successive strata of which they are made up, prove that even the legend of Jesus as taught by the Church is not corroborated in all its particulars by the texts cited in evidence." That is true; but Reinach accepts Loisy's interpretations, which are of no greater value. They are as wanting in proof as the interpretations of Homer by Heraclides [Heraclitus]. Now we are by no means caught in the dilemma of either accepting the *Iliad* as historical narrative or substituting the interpretations of Heraclides for it.

tinued prevalence of an anti-scientific attitude towards the traditions and institutions of the past.[1]

780. Max Müller and his followers carried the method of allegorical etymology to the extremest limits. Their procedure is to use for purposes of proof uncertain and very comprehensive meanings of certain words, which Müller generally derives from the Sanskrit. From them, by reasonings that are not a little loose and vague, sharply defined and positive conclusions are reached.

781. Here is an example. Müller is trying to interpret the legend of Procris.[1] He breaks it up into its "elements." "The first . . . 'Kephalos loves Prokris.' Prokris we must explain by a reference to Sanskrit, where *prush* and *prish* mean to sprinkle and are used chiefly with reference to rain drops. For instance, in the *Rig-Veda,* I, 168, v. 8: 'The lightnings laugh down upon the earth when the winds shower forth the rain.' The same root in the Teutonic languages has taken the sense of 'frost'; and Bopp identifies *prush* with the Old High-German *frus, frigere.* In Greek, we must refer to the same root πρώς, πρωκός, a dew-drop, and also Prokris, the dew. Thus the wife of Kephalos is only a repetition of Herse, her mother —Herse, dew, being derived from Sanskrit *vrish,* to sprinkle; Prokris, dew, from a Sanskrit root *prush,* having the same sense. The

779 [1] Foucart, *La méthode comparative dans l'histoire des religions,* pp. 18 f.: "In the course of the past century the discovery of the Vedic literature aroused an excitement in the learned world that is hard to imagine today. People thought they had come into possession of the songs that the shepherds of early humanity sang in honour of their gods as they led their flocks to pasture, songs faithfully transmitted by tradition. Those shepherds were believed to be the ancestors of the Aryan races, and the monuments [of their culture] were to supply the key to all the languages and all the religions of the Indo-European peoples. Knowledge of Greek and Greece were to suffer especially from such illusions. For half a century the etymological methods that claimed to be revealing the true nature of the Hellenic gods as solar myths and phenomena of weather held up all serious progress. The solar myth, especially, seems to be a sort of inescapable measles that growing sciences of religion have to suffer in early childhood. Egyptology is still infected with the hazy reveries of that early school, the mystical nonsense of which can be found still going the rounds in this late day. As regards the Hellenic religions, treatises recently published are still steeped in the time-worn errors propagated by Max Müller and his disciples." Unfortunately, Foucart's "comparative" method also has its faults, as every *a priori* method must have.

781 [1] *Chips from a German Workshop,* Vol. II, pp. 86-88.

first part of our mythe, therefore, means simply: 'The Sun kisses the Morning Dew.' The second saying is: 'Eos loves Kephalos.' This requires no explanation: it is the old story repeated a hundred times in Aryan mythology, 'the Dawn loves the Sun.' The third saying is: 'Prokris is faithless'; yet her new lover in a different guise is still Kephalos. This we may interpret as a poetical expression for sunbeams, the rays of the sun being reflected in various colours from the dew-drops—so that Prokris may be said to be kissed by many lovers; yet they are all the same Kephalos, disguised, but at last recognised. The last saying was, 'Prokris is killed by Kephalos,' *i.e.,* the dew is absorbed by the sun. Prokris dies for her love to Kephalos, and he must kill her because he loves her. It is the gradual and inevitable absorption of the dew by the glowing rays of the sun which is expressed, with so much truth, by the unerring shaft of Kephalos thrown unintentionally at Prokris hidden in the thicket of the forest." That may be the way people reason in dreamland, but what is certain is that one can prove nothing—or rather prove anything—in such a manner. Müller's etymologies of Procris and of Herse were impugned. In defence he says, *Ibid.,* pp. 86-87, note: *"Prishat,* feminine *prishati,* means 'sprinkled,' *guttatus* in Latin, and it is applied to a speckled deer, and to a speckled cow." When one has at one's disposal a term which of itself means a "rain-drop," a "dew-drop," "frost," "speckled cow," and a few terms equally definite, it is never difficult to extract from it anything one wishes. We must not forget meantime that interpretations of this sort have been accepted and admired by hosts and hosts of people.[2]

782. It would be too simple to see in the Centaurs products of the human imagination, which created those monsters just as it has created so many others. There must be some great mystery about such a conception. Etymology offers a choice among many interpretations. The term "centaur" may indicate [1] "a population of neatherds; for the name is derived from κεντεῖν, 'to goad,' and ταῦρος,

781 [2] I do not know Sanskrit and can therefore say nothing as to Müller's etymologies. I accept them with eyes closed. But the trouble is that even when they are unconditionally accepted, the reasonings based on them are worth little or nothing.

782 [1] Maury, *Histoire des religions de la Grèce antique,* Vol. I, p. 12, note.

'bull.' It refers to the custom of neatherds of driving their cattle with pointed sticks." If that etymology is not to your liking, you might sample another:[2] "Another etymology, modern this time, associates the word αἶρος, 'hare,' with the word κεντεῖν. That would make centaurs 'hare-drivers.'" If you are still not satisfied: "Comparative mythology, assuming an Asiatic origin for the Centaurs, has compared them with the Gandharvas of India, gods that were hairy like monkeys and, like the Centaurs, lovers of wine and women, and practising medicine, divination, and music, as did the Centaurs of Hellenic mythology. The comparison with the Gandharvas (the name means 'horse' in Sanskrit) would tend to make the Centaurs (*i.e.*, men-horses) personifications of sunbeams, pictured as horses in the imagination of the Aryans, or, as has also been said, as clouds, thought of as riding horses about the sun." If you are dubious about that, suppose we make them sons of Ixion and Nephele: "Some have seen in Ixion and his wheel an image of the sun sweeping along in its everlasting movement; others a personification of the hurricane and the waterspout. The Centaurs are either sunbeams or clouds surrounding the sun. They may also be taken as demons of the tempest, unless one prefers to regard them as symbols of the torrents that come rushing down from Pelion."

783. This method of reasoning by gross approximation should be carefully considered, for it is typical: a wheel revolves; the Sun revolves; therefore Ixion's wheel is the Sun. In general terms, the method is as follows. We set out to prove that $A = B$. We try, by appropriate selection of terms, to make A and B arouse more or less similar sentiments in people of our time. We then draw the inference that A was exactly equal to B in the eyes of people of ages long past. To attain that end, it is important not to make the statement too succinct. It must be drawn out long enough to give the sentiments in question time to come into play and gain momentum, burying the fatuity of our reasoning, meantime, in our many words.

784. Maury sees in the Centaurs "the metamorphosis that the

782 [2] Daremberg-Saglio, *Dictionnaire, s.v. Centauri.* So for the two following etymologies.

Gandharvas underwent in Greece. . . . The Gandharvas, in fact, are sunbeams, flames of the sacred hearth-fire in which gaudy reflections play, waves of the Soma, in which those flames are mirrored and which the Aryan imagination pictured as horses."[1] Those blessed Gandharvas are all that; and if it is not enough, fix it up to suit yourself. The Gandharvas are also Centaurs. Uhlenbeck, for his part, *Wörterbuch, s.v. Gandharvás,* does not believe that the Gandharvas have anything to do with the Centaurs. Victor Henry comes back at him and floors him with the following argument:[2] "In Vedic mythology the Gandharvas pass for prodigiously powerful and lascivious beings. Those are the epithets which precede their name, the attributes which everywhere follow them. . . . What do we know of the history of the Centaurs? Very little, after all. If descriptions of them abound, there are no legends, properly so called, about them. Nevertheless, in this incredible dearth of facts a single story stands out, and it is exactly to the purport that the Vedic portraitures led us to expect. Invited to the marriage of Pirithous and

784 [1] *Op. cit.,* Vol. I, p. 202. Bergaigne, *Les dieux souverains de la religion Védique,* p. 65: ". . . it seems legitimate to infer that in the eyes of the author of the hymn [in the Rig-Veda] at least, Gandharva is the same person as Savitri. . . . One may also wonder whether Gandharva, like Tvashtri, does not figure as an enemy of Indra. . . . In such a myth Gandharva can figure hardly otherwise than as the guardian of the Soma or as the Soma itself; and in the latter case he would be duplicating the rôle of Kutsa. . . . According to IX, 113, v. 3 [Griffith, Vol. IV, p. 104], the Gandharvas, already identified with sacrificing priests in Hymn III, 38, v. 6 [Griffith, Vol. II, p. 47], have received the bull (Soma) that has been reared in the clouds and have extracted from it the juice of the soma (the plant of the earthly Soma). In that guise they play a beneficent rôle by distributing the Soma to men. . . . In a word, the Gandharva is unquestionably an example of the confusion that has often taken place under a single name, of attributes belonging to a father and a son." Oldenberg, *Religion des Veda,* p. 244: "The Gandharva as a type goes back, along with its Vedic name, as far as the Indo-Iranian period; but it is all very very obscure. [In a note: "Manhardt and others have rejected, and rightly I believe, any identification of the Gandharvas and the Centaurs."] The Rig-Veda mentions the name in both the singular and the plural, but it gives only the vaguest and most incoherent hints as to what the name stands for. The features of Gandharva have been obliterated or greatly changed, probably as the result of the blending of all sorts of mythical beings under a single name. In a word, there is nothing definite or certain that we can even guess."

784 [2] *Nouvelles études de mythologie,* pp. 22-26.

Hippodamia, they tried to ravish the bride, but were overcome by Theseus and the Lapithae." [3]

785. Interesting, besides, is the way Henry brings grist to his own mill. If the adventures of the Centaurs and the Gandharvas were somewhat alike, they might serve to prove the identity of those mythical creatures. But they are altogether different; never mind—while there is life there is hope! . . . "To my mind," says Henry, p. 26, "the capital consideration is that *their stories are not the same!* The case with the stories is the case with the names. If the names were identical, the etymologist would scent some borrowing. If the stories were alike, the mythographer would suspect them of having travelled. Far from that! The Hindus know things about the character of the Gandharvas that the Greeks forgot. To even the score, the Greeks tell a story about the Centaurs of which the Hindus do not know the first word; and the character trait in question and the stories fit into each other like two fragments of a broken vase, and evidently derive from the same fund of ideas. Reducing that fund to its simplest expression, one has only to formulate the basic conception, or, if you will, the naïve riddle that was pregnant with this whole myth: 'Who are those formless male monsters who are forever going about scattering fertility?' And the least informed person in the world will at once answer: 'The clouds.' "

But now—in point of fact—of all the characters in Greek mythology the Centaurs are the least reproductive. They are lascivious, but sterile, or virtually so. A better answer to Henry's riddle would be Zeus. He is a male, he is "formless," in the sense that he is forever changing forms the better to seduce goddesses and mortal females, and as for reproductivity, he has no equal in Heaven or on Earth. Greek mythology speaks of little else than his sons and daughters.

786. Whenever a person turns up in history of whose existence we cannot be certain and who seems to be legendary, someone even-

784 [3] If that is the only story that survives, it is because Henry will have it so. Anyone minded to take the trouble will find plenty of Centaur stories of no less significance—for example, the adventures of Hercules in the land of the Centaurs.

tually makes a solar myth of him. That, for example, was the fate of Lucius Junius Brutus, the slayer of Tarquin.[1]

787. Let us resort here again to the method suggested in § 547. A Greek writer—for the present we will not say who—speaks of a certain Lamprocles, Λαμπροκλῆς. The name is made up of λαμπρός, "shining," and of κλέος, "glory," "fame." But who is—*par excellence*—shining, glorious, famous? The Sun, of course! On the other hand we know that Lamprocles was the son of a "gold-red mare"; and is it not evident enough that he must be the Sun, which appears just after dawn in crocus-coloured garb—κροκόπεπλος? A solar myth more certainly than many one might mention! But there is one difficulty—and it is a big one. The Greek writer whose name we have been holding up our sleeve is Xenophon. Lamprocles (*Memorabilia,* II, 2) was the son of Socrates and of Xanthippe (Ξανθίππη) from ξανθός, "gold-red" and (ἵππος, "horse"); and, in fact, neither the Sun nor the Dawn had anything to do with him.

788. Well known the fun that our grandfathers had at the expense of the solar myth by showing that Napoleon Bonaparte could also be accounted a myth of that sort.[1]

789. One might easily see a solar myth in our legend about Virgil (§ 668). Virgil's aerial journey and the fire that is extinguished and

786 [1] Pais, *Storia di Roma,* Vol. I, p. 477: "Some importance must be attached, however, to the fact that Junius Brutus, for the very reason that he was a hero identified with the cult of Juno, was likewise identified with the cult of Apollo, in other words, of the Sun. . . . Zaleucus, also, the lawgiver of Locris, had become famous for his severity. . . . Something of the same sort was told of the lawgiver Charondas, in fact the same adventures in general are ascribed to Charondas and Zaleucus. . . . But the circumstance that Zaleucus, who was reputed to have received his laws from Minerva, never existed deprives the accounts of all historical value. . . . Zaleucus was a divinity, and what kind of divinity is made clear by his very name, which means 'he who is wholly luminous.' In a word, Zaleucus was the Sun, and in his putting out one of his own eyes and one of his son's eyes we have symbols of the new Sun and the old." [A little slip in the text: Brutus did not kill Tarquin, but merely overthrew him.—A. L.]

788 [1] A pamphlet published on the subject has remained famous. The first edition, anonymous, was entitled: *Comme quoi Napoléon n'a jamais existé—grand erratum, source d'un nombre infini d'errata, à noter dans l'histoire du XIX^e^ siècle,* Paris, 1827. The fifth edition, posthumous, bears the name of the author, J. B. Pérès, *bibliothécaire de la ville d'Agen.* A tenth edition appeared in 1864 and a critical edition

then rekindled suggest the idea of the Sun, which runs its course in the heavens and each day is extinguished at sunset and rekindled at dawn. The identity becomes the more evident as we stress the manner of Virgil's death:[1] ". . . he climbed into a boat, and the fourth in the company, put out to sea; and as they went thus chatting over the water, there came a gust of wind. . . . So were they swept away out upon the high sea, and thereafter was no one seen or heard of more." For the inhabitants of Naples the Sun in fact sets in the sea. And as for the boat, who can fail to see that it is a detail derived from Egyptian mythology, which has the Sun run its course in a boat?

790. Not in jest, but in all earnestness has one writer tried to show that the Gospel story of the life of Jesus is a solar myth drawn along the lines of Hebrew and Babylonian legends.[1]

791. All this by no means implies that there have never been solar myths. We say merely that they have to be identified as such by historical proofs, and not by the similarities prevailing between vague details in a story arbitrarily interpreted and the general traits of solar movements.

792. To speak in terms still more general, there have certainly

by Gustave Davois, with biographical and bibliographical notes, in 1909. The arguments used in the little pamphlet follow the lines of the interpretations of mythology as solar myths, pp. 15-17, 25. "It is held that his mother's name was Letitia. But Letitia means 'joy,' and the name is simply a designation for the Dawn, whose morning light spreads joy throughout all Nature. . . . It is noteworthy further that, following Greek mythology, Apollo's mother was named Leto, or Létô, Greek Λητώ. But if the Romans saw fit to change Leto into Latona, mother of Apollo, our age has preferred to make Letitia of it, because *laetitia* is the substantive form of the verb *laetor* (more rarely *laeto*), which means 'to inspire joy.' It is certain therefore that both mother and son were borrowed from Greek mythology. . . . It is said that this modern Apollo had four brothers. Now those four brothers can only be the four seasons of the year. . . . It is said that Napoleon put an end to a devastating scourge that was terrorizing all France and which was called 'the Hydra of Revolution.' Now a hydra is a snake—what kind of a snake does not matter, since we are talking mythology. That is an allusion to the Python, an enormous reptile that was an utter terror to Greece. That terror Apollo relieved, by killing the monster." The pamphlet concludes that Napoleon was Apollo, in other words, the Sun.

789 [1] Comparetti, *Virgilio nel medio evo,* Vol. II, pp. 299-300 (missing in Benecke).

790 [1] Jensen, *Das Gilgamesch-Epos in der Weltliteratur.*

been allegories, and not only allegories that are artificial products of scholarly minds but also allegories arising spontaneously among the people. Oftentimes, for that matter, the development is the reverse of the one assumed when the allegory is taken as coming from the name, whereas it is the name that comes from the allegory. A girl child is called Aurora not because she has rosy fingers: the fact of dawn has suggested the allegory of the rosy fingers (§ 794).

793. Herbert Spencer is not of that way of thinking. He extends his theory of the imperfect inferences from experimental facts to totemism and the solar myths. The worship of animals, he thinks, springs from the fact that the human being and the animal become blended in the mind of the savage. The habit of using names of animals as surnames for children or adults facilitates such identification of men and animals:[1] "We cannot wonder if the savage, lacking knowledge and speaking a rude language, gets the idea that an ancestor named 'the Tiger' was an actual tiger." From such confusion of the descent of the man bearing an animal name with the descent of that animal, all the characteristics of totemism are eventually obtained by a fine set of logical reasonings: "A second sequence is that animals, thus conceived as akin to men, are often treated with consideration. . . . Naturally, as a further sequence, there comes a special regard for the animal which gives the tribal name, and is considered a relative. . . . If the East Africans [as Livingstone tells us] think the souls of departed chiefs enter into lions and render them sacred, we may conclude that sacredness will equally attach to the animals whose human souls were ancestral. If the Congo people, holding this belief about lions, think 'the lion spares those whom he meets when he is courteously saluted,' the implication is that there will arise propitiations of the beast-chief who was the progenitor of the tribe. . . . So that misinterpretations of metaphorical titles, which inevitably occur in early speech, being given, the rise of animal-worship is a natural sequence."

794. This theory envisages nothing but logical conduct. It also applies to plants and inanimate things: "Now if an animal regarded

793 [1] *Principles of Sociology,* Vol. I, §§ 171-73, 181, 186, 188-91.

as original progenitor, is therefore reverentially treated; so, too, may we expect, a plant-ancestor will be. . . . One way in which a mountain comes to be worshipped as ancestor is here made manifest. It is the place whence the race came, the source of the race, the parent of the race: the distinctions implied by the different words here used being, in rude languages, inexpressible. Either the early progenitors of a tribe were dwellers in caves on the mountain; or the mountain, marking conspicuously the elevated region they migrated from, is identified as the object whence they sprang." Everything is explainable in that fashion: "That belief in descent from the Sea as a progenitor sometimes arises through misinterpretation of individual names, is likely. . . . It may be that sometimes Dawn is a complimentary metaphorical name given to a rosy girl; though I can give no evidence of this. But that Dawn is a birth-name, we have clear proof." Spencer mentions many instances to show that the name of Dawn (Aurora) was given to human beings by savages; and besides, many women have the same name in modern countries: "If, then, Dawn is an actual name for a person—if it has probably often been given to those born early in the morning; the traditions concerning one of such who became noted, would, in the mind of the uncritical savage, lead to identification with the Dawn; and the adventures would be interpreted in such manner as the phenomena of the Dawn made most feasible." This manner of reasoning by accumulating hypotheses and plausibilities should be attentively remarked; and also the fact that the long road leads to a goal which we might reach in one bound by saying that a woman named Aurora abducted a youth named Orion (§ 769).

Spencer continues: "Is there a kindred origin for the worship of Stars? Can these also become identified with ancestors? This seems difficult to conceive; and yet there are facts justifying the suspicion that it has been so. . . . Has identification of the Moon with persons who once lived, been caused by misinterpretation of names? Indirect evidence would justify us in suspecting this, even were there no direct evidence. . . . Even were there no direct evidence that solar myths have arisen from misapprehensions of narratives re-

specting actual persons or actual events in human history, the evidence furnished by analogy would warrant the belief. But the direct evidence is abundant." This so-called direct evidence is, instead, just a series of mere interpretations of Spencer's own, and they are on a par with other interpretations we have met with.

795. All such simple *a priori* explanations take us outside the realities of the very complicated situations underlying mythical narratives. Mingled in varying proportions in such myths are products of mere fancy, reminiscences of actual facts, and among peoples with literatures reminiscences of literary productions. And such things are further embellished by metaphors, allegories, and one theory or another, now childish, now exceedingly ingenious. Nor should we forget, either, the spontaneous clustering of legends around primitive nuclei of sentiment (§ 740), nor the frequent simultaneous presence of different processes of construction or formation.

796. The proposition, for instance, that Apollo is a solar god is a mixture of error and truth—of error in the sense that in a cycle such as the *Iliad* Apollo is not a solar god; of truth, in that in other cycles solar myths come to be combined with the not-yet-solar myth of Apollo and finally gain such predominance over the latter that Helius comes to be confused with Phoebus and Apollo.

797. Let us pause for a moment now and consider just where our induction has brought us. It has not only confirmed the wide-spread prevalence of non-logical conduct, which we noted as early as Chapter II, but has shown in addition that such conduct constitutes the substance of many theories which, judged superficially, might seem to be exclusive products of logic.

798. Our detailed examination of one theory or another has in any case led to our perceiving that theories in the concrete may be divided into at least two elements, one of which is much more stable than the other. We say, accordingly, that in concrete theories, which we shall designate as *c*,[1] there are, besides factual data, two

798 [1] To keep as far as possible from reasoning on words rather than on things, we shall begin in our usual manner (§ 119) by using letters of the alphabet to designate the things with which we are dealing, substituting names for this inconvenient method of notation in the next chapter.

principal elements (or parts); a substantial element (part), which we shall designate as *a,* and a contingent element (part), on the whole fairly variable, which we shall designate as *b* (§§ 217, 514[4]).

The element *a* directly corresponds to non-logical conduct; it is the expression of certain sentiments. The element *b* is the manifestation of the need of logic that the human being feels. It also partially corresponds to sentiments, to non-logical conduct, but it clothes them with logical or pseudo-logical reasonings. The element *a* is the *principle* (§ 306[2]) existing in the mind of the human being; the element *b* is the explanation (or explanations) of that principle, the inference (or inferences) that he draws from it.

799. There is, for example, a principle, or if you prefer, a sentiment, in virtue of which certain numbers are deemed worthy of veneration: it is the chief element, *a,* in a phenomenon that we shall study further along (§§ 960 f.). But the human being is not satisfied with merely associating sentiments of veneration with numbers; he also wants to "explain" how that comes about, to "demonstrate" that in doing what he does he is prompted by force of logic. So the element *b* enters in, and we get various "explanations," various "demonstrations," as to why certain numbers are sacred. There is in the human being a sentiment that restrains him from discarding old beliefs all at once. That is the element *a* in a phenomenon that we examined some distance back (§§ 172 f.). But he feels called upon to justify, explain, demonstrate his attitude, and an element *b* enters in, which in one way or another saves the letter of his beliefs while altering them in substance.

800. The principal element in the situation, the element *a,* is evidently the one to which the human being is most strongly attached and which he exerts himself to justify. That element therefore is the more important to us in our quest for the social equilibrium.

801. But the element *b,* though secondary, also has its effect upon the equilibrium. Sometimes the effect may be so insignificant as to be accounted equivalent to zero—as when the perfection of the number 6 is ascribed to its being the sum of its aliquots (1, 2, 3). But the effect may also be very considerable, as when the Inquisition

burned people guilty of some slip in their theological calculations.

802. We have said (§ 798) that the element *b* is made up, in variable proportions, of sentiments and logical inferences. It is well to remark at once that in social matters its persuasive force depends as a rule chiefly on sentiments, the logic being accepted principally because it chances to harmonize with such sentiments. In the logico-experimental sciences, in proportion as they are brought to greater and greater perfection, the part played by sentiment tends to decrease towards zero, and the persuasive force lies altogether in the logic and in the facts. When it reaches that extreme the element *b* evidently changes its character, and we shall designate it by *B*. At another extreme there are cases in which the logical inference is not clearly manifested, as in what jurists call "latent principles in law." [1] Psychologists explain such phenomena as effects of the subconscious, or in some other way. We do not choose to go quite so far back here; we stop at the fact, leaving the explanation of it to others. All concrete theories fall between those extremes, approaching the one or the other to a greater or lesser extent.

803. Though sentiment has no place in the logico-experimental sciences, it nevertheless invades that field to some degree. If, overlooking such considerations for the moment, we designate as *C* the concrete theories of logico-experimental science that constitute the second group in § 523, we may break them up into an element *A* made up of experimental principles, descriptions, and experimental assertions, and an element *B* made up of logical inferences, along, further, with experimental principles and descriptions used for drawing inferences from the element *A*.

802 [1] Von Jhering, *Geist des römischen Rechts,* Vol. I, pp. 29-30 (Pt. I, § 3): "Despite the great skill of the classical jurists of Rome, there were, even in their time, rules of law that remained unknown to them and which were first elucidated by the efforts of the jurisprudence of our own day. I call them 'latent' principles of law. But, someone will ask, can such a thing be possible? To apply such a rule, must it not be known? For an answer we need simply point to the laws of language. Thousands of persons daily apply [linguistic] laws that they never heard spoken of [Non-logical conduct.], laws of which philologists themselves are not always clearly aware. The deficiencies of the understanding are made up for by sentiment, by grammatical instinct."

The theories *c,* in which sentiment plays a part, which add something to experience, which lie outside experience, and which constitute the third group in § 523, likewise break down into an element *a,* made up of manifestations of certain sentiments, and an element *b,* made up of logical reasonings, fallacies, and sophistries, along, further, with other manifestations of sentiment used for drawing inferences from *a.* There is, accordingly, a certain correspondence between *a* and *A,* between *b* and *B,* and between *c* and *C.* In these volumes we are dealing strictly with *c* theories, ignoring experimental scientific theories, *C.*

804. In trans-experimental and pseudo-experimental theories, *c,* writers seldom distinguish the elements *a* and *b* with the clearness required. As a rule they more or less confuse them.

805. *Example:* One of the principles of Roman law is the property-right. Once the principle is admitted, many consequences are logically inferable from it and they make up a very considerable portion of the theory of Roman civil law. There is a celebrated instance, the case of *specification,* in which the principle is not adequate for solving the problems that arise in practice. Girard, a very competent authority on Roman jurisprudence, writes:[1] "The theory of specification assumes that a person has taken a thing, and, notably, a thing belonging to another person, and given a new form to it by his own labour, so creating a *nova species* (*speciem novam fecit*): he has made wine out of grapes, a vessel out of metal, a boat out of lumber, and so on.[2] The question is to determine whether the object so manufactured is still the old object, and therefore lawfully belonging to the former owner, or a new object conceivably belonging to a new owner." That manner of stating the problem already to some extent confuses the elements *a* and *b* in the law of property. To keep them distinct one would have to say: "The problem is to

805 [1] *Manuel élémentaire de droit romain,* pp. 316-17.

805 [2] In a note: "The case does not arise when he has merely dyed a piece of cloth, or, Justinian to the contrary notwithstanding (*Institutiones,* 2, 1, 25 [*Corpus iuris civilis,* Vol. I, pp. 12-13; Scott, Vol. II, p. 37]), merely taken the wheat from the kernels that contained it."

determine the owner of a single object in which two property-rights have become blended."

806. A person considering nothing but legal constructions, *c,* ought in this case simply to confess that the principles supplied by element *a* in the law are not adequate for solving the problem, and that therefore others are needed. The new principle asked for might be that an *old* object always belongs to the old proprietor and that a *new* object may have a new proprietor. In that case Girard's framing of the issue would be perfect, but we would be avoiding one difficulty only to fall into another; for now we would need some principle for determining how flatly and squarely the new object is to be distinguished from the old, not in general terms, be it remembered, but as regards ownership. We would, in short, be no nearer a solution of the problem.

807. Law, *a,* may furnish the principle that ownership of the thing takes precedence over ownership of labour. That, we may conjecture, may have been the archaic principle, because on the one hand ownership of material substance is something more concrete than ownership of labour, and in general, the concrete takes precedence over the abstract; and on the other hand labour enjoyed no very high esteem in ancient Roman society.

808. Says Girard: "Very probably the ancient jurists, without going into theoretical niceties, regarded the object as remaining the same." That would be describing the evolution of the form rather than of the substance. The ancient jurists probably had in their minds a non-logical inclination that prompted them to give ownership of material substance precedence over ownership of labour. In a later phase they, or their successors, desiring to give a logical reason for their ruling, came out with the consideration that the object remained the same. But any other pretence might have served just as well.

809. The development of Roman civilization produced a corresponding development in capacities for abstraction and in the esteem in which labour was held. We might foresee, therefore, that in

course of time the law, *a,* would supply other non-logical principles more favourable to labour.

810. Speaking of specification, in fact, Gaius says: "In other species appeal is made to natural reason." [1] This *naturalis ratio* is an old acquaintance of ours. Strange, indeed, had it not turned up! Under the wing of that authority the Roman jurists sheltered their expressions of sentiment, which corresponded to non-logical instincts in the society in which they lived. Gaius states that the writing done on a piece of parchment is held to belong to the owner of the parchment, the contrary being true of a picture painted on a canvas; and he comments: [2] "The reason given for this inconsistency is hardly adequate." As usually happens when people set out to explain non-logical conduct logically!

811. Girard continues: "Later on, in virtue of a nicer analysis, the Proculians maintained that it was a new object and should belong to its maker, on the ground either that the workman had acquired it by tenure, or perhaps simply that a thing should belong to its maker." Here again we get the evolution of the form rather than of the substance. It is not a case of "nicer analysis" yielding new principles; analysis has merely produced new logical justifications for new non-logical sentiments that had developed in the minds of the Romans and their jurists.

812. "In the face of this doctrine, the Sabinians—probably without denying that it was a case of a new object—refused to admit that the maker acquired the product of his labour, and held that the new article belonged to the owner of the old." As usual, the solution of the Sabinians was dictated by sentiments that they held and which they sought to justify by logical argument.

813. Gaius, quoted in *Digesta,* XLI, 1, 7, § 7 (*Corpus iuris civilis,* Vol. I, p. 737; Scott, Vol. IX, p. 157), gives a sample of such arguments: "In the case where a person makes a new thing in his own name out of material belonging to another, Nerva and Proculus

810 [1] [*Commentarii,* II, 79 (Poste, p. 200; Scott, Vol. I, p. 120): *"In aliis quoque speciebus naturalis ratio requiritur:* Poste: "On a change of species also we have recourse to natural law to determine the proprietor."—A. L.]

810 [2] *Commentarii,* II, 77-78 (Poste, pp. 199-200; Scott, Vol. I, p. 120).

opine that the owner of the thing is the person who has made it, because before that the thing made belonged to no one. More in accord with natural reason, Sabinus and Cassius rule that the owner of the material is the owner of the thing made from it, because without material nothing can be made." Benevolent, indeed, Dame Naturalis Ratio, who never withholds her assistance from anyone, and lends herself so readily to the proof of both the yea and the nay. These arguments are devoid of sense and simply express certain sentiments.

814. In the end a compromise solution was adopted on grounds no sounder. When the thing made could be restored to its original form the view of Sabinus and Cassius was followed. When that was not possible the view of Nerva and Proculus prevailed.

815. Returning to the general case: Ordinary parlance is nearly always synthetic and has its eye on the concrete situation. Usually, therefore, it confuses the elements *a* and *b,* which scientific analysis has to distinguish (§ 817). Practically it may be useful to consider the elements *a* and *b* together. If the principles, *a,* were definite, anyone accepting them would also be bound to all their logical implications, *b.* But the principles, *a,* being devoid of all precision, one may infer anything one chooses from them, and the implications, *b,* are therefore accepted only in so far as they accord with sentiments, which are in that manner called in to sift the logical inferences.

816. The abuse often heaped on moral casuistry or legal quibbles is chiefly due to the fact that the principles, *a,* have been designedly used, in view of their lack of definiteness, to support consequences that are repugnant to sentiment.

817. From the scientific standpoint, any progress in theory is strictly bound up with progress in distinguishing between the elements *a* and *b*—a point on which one cannot insist too emphatically. It is all very well that the function of art is to study the concrete phenomenon, *c,* synthetically and must therefore not separate the elements *a* and *b;* and to do that, moreover, is an effective method of persuasion, because nearly all human beings are in the habit of thinking synthetically, and find it hard to grasp, in fact are quite

unable to grasp, a scientific analysis. But such analysis is indispensable to anyone trying to frame a scientific theory. That is all very difficult to get into the heads of people who have no aptitude for scientific thinking, or who divest themselves of it the moment they turn to matters pertaining to sociology. They obstinately insist on considering situations synthetically (§§ 25, 31).

818. When, therefore, a writer is read with the idea of passing a scientific judgment on his theories, it is essential first of all to do a thing that he almost never has done for himself: to distinguish the elements *a* and *b*. In general, in every theory it is necessary to distinguish carefully the premises—in other words, principles, postulates, sentiments—from the inferences that are drawn from them.[1]

819. Oftentimes in the case of theories adding something to experience (§§ 803, 523), the premises are at least partially implicit, that is to say, the element *a* is not declared or is not fully and clearly declared. If we would know what it is, a search has to be made for it.[1]

820. From the logico-experimental point of view, the fact that a premise is left implicit, or even just partially so, may give rise to very serious errors. The mere declaration of a premise raises the question as to whether and how far it is to be accepted; whereas if

818 [1] Sumner Maine was well aware, as regards law, of the antagonism between the metaphysical concepts of a perfect ideal and the study of the facts, which he identifies with the "historical method." Says he, *Ancient Law,* p. 87: "I believe . . . that it [the philosophy founded on the hypothesis of a state of nature] is still the great antagonist of the Historical Method; and wherever (religious objections apart) any mind is seen to resist or contemn that mode of investigation, it will generally be found under the influence of a prejudice or vicious bias traceable to a conscious or unconscious reliance on a non-historic, natural, condition of society or the individual." But Maine forgets all that when it comes to morality. He seems to think that morality is a model of perfection more nearly attained by the morality of the present than by the morality of the past. He says, for example, that English jurists regard English equity as founded on moral rules, and adds, *Op. cit.,* p. 66: ". . . but it is forgotten that these rules are the morality of past centuries . . . and that, though of course they do not differ largely from the ethical creed of our day, they are not necessarily on a level with it."

819 [1] To that search we were led in an incidental way in Chapter II (§§ 186 f.), and then again in Chapter IV and in this Chapter V (§ 740). We shall deal with it expressly in the chapters next following.

it is left implicit we accept it without being fully aware of what we are conceding; and we assume it to be definite and exact, whereas it is so far from being so that we would be put to it to find any meaning in it whatever.

821. Often a writer will say nothing at all about his non-experimental premises, and often, also, when he does declare them, he will try to create a confusion between them and scientific principles resulting from experience.

An interesting example of such a confusion is to be found in the theory stated by Rousseau as a preface to his discourse on the origin of inequality:[1] "Let us therefore begin by setting all facts aside. They have no bearing on the question. Such investigations as we may make in this connexion must not be taken as historical truths, but simply as hypothetical and contingent reasonings, calculated rather to elucidate the nature of things than to show their actual origin, something similar to the reasonings that our physicists are making every day as to the formation of the world."[2] So then, Rousseau's prospective research is essentially an experimental research; but the experience is a special kind of experience—something like what is nowadays called "religious experience"—having nothing whatever to do with the experience of the physical sciences, in spite of the confusion that Rousseau tries to create and which merely serves to prove his prodigious ignorance. He continues: "Religion requires us to believe that since God Himself removed men from the state of nature immediately after the Creation, they are unequal because He has willed that they be so; but it does not forbid our

821 [1] *Discours sur l'origine et les fondements de l'inégalité parmi les hommes.*

821 [2] Here, unwittingly, Rousseau brings the hammer down on his own thumb. He is right: his investigations are in fact like the idle speculations that sought the origin of the world in "damp," in "fire," and the like. His theories stand towards social science, properly so called, exactly as those physical speculations stood towards astronomy, as astronomy was even in Rousseau's day. He says further in the same preface: "Ignoring therefore all those scientific books that teach us only to know men as men have made themselves, and pondering the elementary and simplest operations of the human soul, I seem to perceive two principles anterior to reason." And Rousseau is the Holy Father of a church that pretends to represent reason and science as against a Catholic Church which, those gentlemen say, stands for superstition!

making conjectures, based solely on the nature of man and the creatures about him [Here the pseudo-experience.] as to what the human race might have become had it been left to itself. That is the question which is set me, that the subject which I propose to examine in this essay. Since my subject concerns mankind in general [An abstraction designed to get rid of experience after the pretence of accepting it.], I shall try to use a language suitable to all nations [Some of which were absolutely unknown to this shrewd rhetorician.], or rather, forgetting times and places, and thinking only of the human beings I address, I shall imagine myself as speaking in the Lyceum at Athens, with Platos and Xenocrates's for my judges, and mankind for my audience." So he goes chattering on, and discovers, starting from the "nature" of things, how things *must* have been, without being put to the trouble of verifying his fine theories on the facts, since he began by stating that he was ignoring them. There are still hosts and hosts of people who admire such prattle. That is why it has to be taken into account when one sets out to study human society.

822. Many other writers who none the less pretend to be using strictly scientific, even "materialistic" methods, follow more or less covertly the path blatantly trodden by Rousseau. Engels, for example, confesses that direct evidence as to a certain inferior stage traversed by humanity is not available; but he demonstrates the existence of such a stage *a priori* from the fact that man has evolved from the animal. It is fun to write history in that fashion, describing times altogether unknown on the basis of hypotheses altogether uncertain. People who admire that manner of thinking pride themselves on being more "scientific" than those who used to admire the holy Fathers of the Catholic Church when they disproved the possibility of antipodes (§ 16).[1]

822 [1] Engels, *Der Ursprung der Familie,* pp. 2-4: "First Inferior Stage: It is the childhood of humanity. Human beings were still living in their primitive homes in the tropical or subtropical forests, and partly at least in trees—which explains their managing to survive in the face of the great beasts of prey. Fruits, nuts, and roots were their food. The working out of an articulate language is the main achievement during this period. . . . We are likewise unable—though it may have lasted thou-

823. Amusing the case of Burlamaqui (§ 439). His theory of "natural law" is entirely metaphysical, and yet he writes:[1] "If strict attention be paid to our manner of establishing our principles of natural laws, it will be recognized that the method we have followed supplies fresh proof of the certainty and actual existence (*réalité*) of those laws. We have laid all abstract and metaphysical speculation aside to keep solely to the fact—to the nature and condition of things." But then, right away, and with the greatest ingenuousness, he contradicts himself: "We have derived our principles from the essential constitution of man and the relations in which he stands to other creatures." Essential constitutions, like all other considerations on "essences," lie outside the domain of experience. Burlamaqui so little comprehends what he is saying that he adds: "One cannot refuse to recognize natural laws or doubt their reality without repudiating the purest light of reason—a procedure that would eventually lead to mere scepticism (*Pyrrhonisme*)." In the experimental field what decides is the accord between theory and fact, not "the pure light of reason."

824. Given the element *a,* the element *b,* or better, *B,* may be built up deductively; and to study it therefore is very much easier than to study the element *a.* It has, in fact, produced the only social sciences that are today at all exact and well developed: the sciences of juridical constructions and pure economics (§ 2011).[1] Studies of

sands of years—to prove its existence by direct evidence; but once one grants that the human being came from the animal kingdom, such a period of transition has to be assumed. . . . Second Intermediate Stage: It begins with the use of fish (among which also are to be counted crustacea, shell-fish and other aquatic animals) as food, and with the use of fire. The two go together, fire alone making fish perfectly edible." What a lot of interesting things this man knows! Scientists are still arguing as to whether the human race has one or more origins and where, geographically, they are to be located. Engels knows that man came from the animal kingdom and that the development took place in the tropics or subtropics. He also knows that men began by eating fish; and that is not all, for "hunter-peoples, as pictured in the books, peoples living exclusively by hunting, that is, have never existed, the fruits of the chase being far too uncertain."

823 [1] *Principes du droit naturel,* Pt. II, Chap. 5, sec. 3.

824 [1] In this and the following paragraphs (as contrasted with its use in § 806) the term "juridical construction" is used not in the special sense it has in legal science (interpretation, "construing") but in the ordinary sense. Our term there-

the element *b* will be the more perfect, the nearer they come to being made up of logic only; and the less perfect in proportion as they assume, or allow to creep in, any great number of non-experimental principles that ought properly to remain in the element *a*. Moreover, since the element *a*, or even *A* (§ 803), is the part that gives rise, or may give rise, to doubts and uncertainties, the slighter it is, the sounder may be the science derived from it.

825. Pure economics has the advantage in fact of being able to draw its inferences from very few experimental principles; and it makes such a strict use of logic [1] as to be able to state its reasonings in mathematical form—reasonings having the further very great advantage of dealing with quantities. The science of juridical constructions also has the merit of requiring few principles; but it does not have the advantage of dealing with quantities. Quantity still remains the great stumbling-block in sociology; but we can at least be rid of the nuisance caused by intrusions of element *a* into element *b*.

826. Speaking in general terms, certain principles, *a*, may be arbitrarily assumed, and—provided they be definite—a body of doctrine, *c*, may be derived from them. But if the principles, *a*, are foreign to reality, it is evident that the part *c* will also have no bearing on the concrete. When, therefore, one would constitute a science, it is important to select one's principles, *a*, judiciously with a view to keeping as close to reality as possible, well aware as one may be that no theory, *c*, can ever represent reality in every particular (§ 106).

827. Other sociological theories have been used in efforts to constitute a rigidly scientific body of doctrine, but unfortunately with no success; and that because the principles on which the theoretical structure was based were too far removed from experience (§§ 2015 f.).

fore designates the framing, composition, creation, of a juridical theory. In this sense, celestial mechanics would be a mechanical *construction* based on the principle of universal gravitation.

825 [1] That merely by definition, to a certain extent arbitrary (§ 119). See *Manuale*, Chap. III, § 1: "We are to deal with the logical actions repeated many times over and in great numbers that human beings perform in order to acquire things satisfying to their tastes."

828. One such would be "social Darwinism." If it be granted that —apart from temporary oscillations—the institutions of a society are always those best suited to the circumstances in which that society is situated, and that societies not possessing institutions of the kind eventually perish, we get a principle susceptible of important logical developments that may well serve to constitute a science. That experiment was made, and for some little time there was reason to hope that a scientific theory, *c,* of sociology was at last within reach, since some of the inferences, *b,* were verified by the facts. But the doctrine declined with the Darwinian biological theory in which it originated. It was perceived that the explanations of facts that it yielded were too often merely verbal. Every form of social organization or life has to be explained by its utility, and to attain that end, arbitrary and imaginary utilities were brought into play. Unwittingly, the theory was just a return to the old theory of final causes. Social Darwinism still remains a well-ordered body of doctrine, *c,* but it has to be considerably modified before it can be reconciled with the facts. It determines not the forms of institutions but merely certain limits that they cannot overpass (§ 1770).

829. "Economic determinism" is another. If that theory be taken in the sense that the economic state of a society entirely determines all social phenomena arising within it, we get a principle, *a,* from which a wealth of inferences may be so drawn as to constitute a science. The economic interpretation of history was a notable forward step for social science, bringing out as it did the contingent character of certain phenomena, such as morals and religion, which many people regarded and still regard as proclaiming absolute verities. Undoubtedly, moreover, it contains an element of truth in that it takes account of the interdependence of economic and other social factors. Its error lies in representing that interdependence as a relation of cause and effect.

830. An incidental circumstance contributed to making the error much graver. Economic determinists saw fit to couple their theory with another, the theory of the "class struggle," from which it might just as well have been left entirely independent; and the classes, into

the bargain, were reduced by a dichotomy somewhat cavalier to two. So the field of science was progressively deserted in favour of excursions into the domain of romance. For the historical materialists sociology becomes a very easy science. It is idle to waste time and energy discovering the relationships between facts—their uniformities. Any fact recorded by history, any institution described, any political, moral, or religious order exemplified, finds its cause in the "exploitation of the proletariat" by the *"bourgeoisie,"* and its remedy in the resistance of the "proletariat" to said exploitation. If the facts corresponded to such inferences, we should have a science as perfect as human science ever was, and more so. Unfortunately the theory goes in one direction and the facts in quite another (§ 1884[1]).

831. Still another doctrine is the "theory of limits," which may well be called Spencerian or of the Spencerian school, if the writings of the master and his disciples could be purged of their numerous metaphysical accessories. It assumes, as its principle, *a,* that all social institutions tend towards a limit, are like a curve that has an asymptote (§§ 2279 f.). The curve known, the asymptote can be determined; known the historical evolution of an institution, its limit can be determined, in fact, more easily determined than the asymptote in the simpler case of the curve, for in mathematics knowledge of a few points on the curve is not enough to compute the asymptote—we must have its equation, know, that is, its intrinsic character—whereas, given a few points on the graph representing an institution, it is possible, or rather, it is believed to be possible, to determine the limit *ipso facto.*

832. This principle, *a,* lends itself to scientific inference, *b,* and so yields an extensive body of doctrine, which may be examined in Spencer's own *Principles of Sociology* and other works of that school. The doctrine—provided always we eliminate metaphysical intrusions—brings us close to the experimental method, since it is from the facts, after all, that the conclusions are derived. But, alas, facts are not all that count: the principle mentioned, that institutions have a limit, is always interfering, and that other principle, that the limit may be determined if a few successive stages of the

institution are known. Furthermore, by a coincidence that would be strange indeed if it were truly fortuitous, the limit which a writer assumes to be determined strictly by his facts turns out to be identical with the limit towards which he is sentimentally inclined. If he is a pacifist, as Spencer was, most obliging facts show him that the limit towards which human societies are tending is universal peace; if he is a democrat, there is no doubt that the limit will be a complete triumph of democracy; if he is a collectivist, the triumph of collectivism; and so on. Hence a suspicion arises, and grows stronger as we proceed, that the facts are serving merely to conceal more potent motives of persuasion.

Be that as it may, the reasons advanced by these positivists to justify their inferences do not correspond to the facts, and that vitiates the whole structure. Then, finally, there is the serious difficulty (in time it might be corrected, of course) that we are at present far from possessing the historical knowledge which, strictly, would be indispensable for proper use of the method.

833. Different altogether in nature from the theory of limits are those theories which assume an indefinite, nebulous principle, *a,* utterly lacking in exactness and proceed to derive from it, with a logic apparently sound, conclusions that are after all mere expressions of sentiments, and gain no demonstrative force whatever from the reasoning that binds them to *a.* In fact it very frequently happens that from such a principle, *a,* one thinker will draw one set of conclusions and another a quite opposite set. There is generally little fault to be found with the reasoning in itself; but the principle does not lend itself to strict reasoning—like rubber, it may be stretched to any length desired.

834. The theories, *c,* cannot attain an even moderately scientific form unless the principles, *a,* are to some extent exact. From that point of view, an arbitrary definition is better than no definition at all. When we are dealing with matters of law, lack of definiteness may be corrected by fictions; and that method has its uses also in other sciences, when the purpose is to get simplified statements of theses. It is used even in mathematics. The theorem, for instance,

that every algebraic equation has a number of roots equal to its power is useful and convenient in that form; but it is true only in virtue of the fiction that among such roots are to be counted not only real roots but imaginary ones.[1]

835. Well known the fact that in Rome the praetorian law modified the civil law not by alterations in the principles, *a,* which for a time retained all their formal strictness, but by interpretations and qualifications. The praetor serves notice that since according to civil law an obligation obtained by fraud is valid, he will make an *exception* for the non-enforcement of the obligation: that is, to say, he inserts in the formula a clause (the *exceptio doli mali*) enjoining the magistrate to award judgment only *si in ea re nihil dolo malo Auli Ageri* (*i.e.,* John Doe) *factum sit neque fiat* (In case no fraud in the matter has been or is being committed by John Doe).[1] Whatever the theory accepted with reference to the *bonorum possessio,* it is incontestable that at a given epoch it served to introduce a praetorian inheritance more liberal than the inheritance of the civil law. The two modes of inheriting existed side by side. If the idea, for instance, was to emphasize blood-relationship, the civil law might have been amended, as was in fact done by the Emperors later on. The preference, instead, was to admit to the inheritance *unde liberi*

834 [1] I am using the term "fiction" here in a broad sense, as does Maine in his *Ancient Law,* pp. 24-25: "I employ the word 'fiction' in a sense considerably wider than that in which English lawyers are accustomed to use it, and with a meaning much more extensive than that which belonged to the Roman *fictiones.* Fictio, in the old Roman law, is properly a term of pleading, and signifies a false averment on the part of the plaintiff which the defendant was not allowed to traverse; such, for example, as an averment that the plaintiff was a Roman citizen, when in truth he was a foreigner. The object of these *fictiones* was, of course, to give jurisdiction, and they therefore strongly resembled the allegations in the writs of the English Queen's Bench and Exchequer, by which those Courts contrived to usurp the jurisdiction of the Common Pleas—the allegation that the defendant was in custody of the king's marshal, or that the plaintiff was the king's debtor, and could not pay his debt by reason of the defendant's default. But now I employ the expression 'Legal Fiction' to signify any assumption which conceals, or affects to conceal, the fact that a rule of law has undergone alteration, its letter remaining unchanged, its operation being modified." The meaning may be even more general, designating an assertion evidently false that is granted in order to leave a rule, a theory, a thesis, unchanged while changing its implications.

835 [1] Girard, *Manuel élémentaire de droit romain,* p. 40.

individuals whom the civil law would have called *sui* (relatives), in case they had no *minima capitis diminutio* (forfeiture of civil rights).

836. This procedure, we have seen (§§ 226 f.), was closely correlated with the Roman psychic state. But in addition, and quite unconsciously, we may guess, the Romans were realizing a most important purpose of giving stability to the principles, *a,* of law and, consequently, of finding ways to consolidate a body of legal doctrine, *c.* That was perhaps one of the chief reasons why Roman law became so superior to the Athenian (§ 241).

837. Legal construction of the Roman type appears in a large number of other instances. It was once believed that certain countries, such as England, which had only a customary law (in England the common law) had only one body of law, *a.* But that was an error which Maine did well to correct.[1] He pointed out the analogies between English "case law," supposedly derived from precedents, and the *responsa prudentium* of the Romans. The part *b* figures in the common law, but it is greatly inferior as regards theory to the parts *b* in other laws that have definitely accepted and framed their juridical systems.

838. Concrete juridical entities are made up of parts *a* and *b.* Descriptive law, *c,* catalogues those entities just as mineralogy catalogues rocks and minerals, leaving the question of their composition to chemistry.

839. Roguin has contributed treatises on *b* and *c,* with very scant reference to *a,* so that his work belongs in part at least to the general science of society. In his *La règle de droit* he is dealing with *b,* and he says (Preface, p. v): "This is an absolutely neutral study, that is to say, a study free from any appraisals. It shows not a trace of criticism from the standpoint of justice or morals. Nor is it, either, a study of natural law or philosophy in the ordinary senses of those terms. It has, furthermore, no bearing on the history of law: it does not try to link juridical institutions with causes, to show their effects. We are not even dealing with comparative law. Our purpose has

837 [1] In his *Ancient Law,* p. 32. See also Lambert, *La fonction du droit civil comparé,* Vol. I, pp. 180 f.

been to analyze the rules of law that have existed historically or which are merely imaginable, possible; to show the nature of the juridical relation as distinguished from relations of other kinds, and to determine the elements within it that are constant.

840. Later on Roguin deals with *c* in his *Traité de droit civil comparé,* adding a few *b* developments: "It is important to distinguish sharply between statements of fact and appreciations [A thing very rarely done in sociology!], between history, which records objective facts, and criticism, which passes judgment upon them." [1] Very few people are willing to do that, even in history!

841. The example of civil law is the easier to consider because it makes less of an appeal to sentiments. On the other hand, sentiments acquire great importance in criminal law, and that is one among many reasons why theories of criminal law have always been less perfect than theories of civil law. In morals and religion sentiments reign supreme, and therefore in those fields it is difficult to get theories that, let alone scientific, are even to any extent exact; what we get is an amorphous mass of metaphysical preconceptions and expressions of sentiments.

The Italian school of positive law might become scientific if it would only shed its useless appendages of democratic faith and be cured of its mania for immediate practical applications, which is the bane of all kinds of theory. At any rate it would seem that, following the trail it has been blazing, one might some day arrive at a scientific theory of criminal law.

Theology has a part *b* that, as in St. Thomas Aquinas, is sound and well developed; but its element *a* entirely transcends experience and therefore fails to interest us. Ethics, too, works from non-experimental principles and has in addition an element *b* that is truly chaotic and loses logical value almost entirely the moment ethics is separated from theology. Pseudo-sciences of that type take us altogether outside the logico-experimental field.

840 [1] Vol. I, p. 9. Roguin continues, pp. 10-11, *Le mariage:* "Now how ought we to evaluate those tendencies in legislation? We have not always been concerned to express any opinion. The present volume contains but very few critical judgments scattered here and there."

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